URBAN DEVELOPMENT OF ALIGARH CITY AND SOCIAL WELFARE DEVELOPMENT

DISSERTATION

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By

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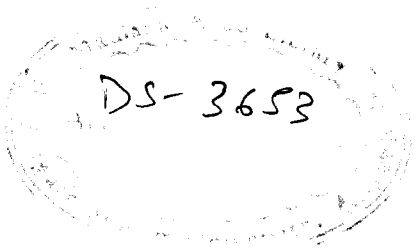

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Certificate

This is to certify that Miss Nadia Anis has completed her M.Phil. dissertation entitled **"Urban Development of Aligarh City and Social Welfare Development"** under my supervision. This dissertation is a partial fulfilment for the award of the degree of Master of Philosophy in Geography.

In my opinion, the present dissertation is fit to submit for the evaluation.

(Prof. Hifzur Rehman)
Supervisor

Dedicated

To

My Parents

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Nadia Anis

(NADIA ANIS)

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GLOSSARY

Doab	Inter-reverine plain
Jhil	Lake
Loo	Warm wind, which generally blows in the month of May and June in Indian sub-continent
Masjid	Mosque
Minar	Tower
Mohalla	Locality
Nadi	River
Qila	Fort
Reh	Efflorescence of salts in soil
Tehsil	Sub Division of district
Usar	Saline, Alkaline soil
Zamidar	Landlord

INTRODUCTION

The phenomenon of urbanization is continued everywhere, but it is evidently seen in the western world where urban population constitute 75 per cent. Nearly 68 per cent of urban population resides in developed regions comprising Europe, North America, Japan, Australia and New Zealand in 1970, it increased to 75 per cent in 1994 and it is estimated that it will take a jump to over 80 per cent by 2010. At the beginning of 19^{th} century nearly 3 per cent of the world's population was living in towns over 5000 inhabitants. Between the period 1950 and 1970 the world's urban population increased from 28.2 per cent to 38.6 per cent. But this sharp increasing trend went on to show a slow increase unceasingly and by 2000, the figure reached to 50 per cent. The number of cities with 1 million population too indicated a similar trend. In 1921 there were 24 cities of one million population which increased to 41 in 1941 and 113 by 1961. By 1988 their number increased to 240. It is actually a swing of urbanization in developing countries. This fact is also supported with the change in regional distribution of urban population. Asia shows a increasing share in the world's urban population by hosting as many as 11 cities. It is estimated that by 2020 the urban population in Asia and Pacific region would be 1.97 billion or 46 per cent of its total population of 4.3 billion. This means three quarters of the world's urban dwellers will live in cities and towns of Africa, Asia and Latin America.

India too is passing through a phase of rapid urbanization brought by the general development; industrialization and migration of population from rural to urban areas in search of better livelihood.

During pre-independence time urban population of India was 13.9 per cent in 1941, which increased to 17.3 per cent in 1951 after the independence. Before independence nearly 15 per cent people were living in towns, and now their share has become just double. The reason for this change in the urban population may be many, but it is mainly attributed to migration of rural people to urban areas.

The growth of population in urban areas in India is related with a shift of population from villages to urban areas in search of better livelihood. During 1961-71 about 24 million people migrated from rural to urban areas. Each year on an average about 4 million people migrate to cities like Mumbai, Delhi and Kolkata. The cities and towns are, however, not prepared to absorb this phenomenal increase in number, this reflect a haphazard and unorderly growth. This floating population adds new problems to municipal bodies who with their limited funds are themselves incapable of serving such an ever increasing population.

This gap between accessibility and requirement for urban infrastructural facilities has widened a gap over the years which severely affect the problems of space, environment and keep intact the quality of life in urban areas. Several studies have indicated that a large segment of urbanites do not have access to basic services like drinking water, sanitation, basic health and education facilities.

The data available with the 2001 census indicates that the percentage of urban households having access to safe drinking water has registered a minimal increased from 81.40 per cent (in 1991) to 90 per cent (in 2001). The average water supply to the residents in large cities is available only 5 to 6 hours a day. As per census 2001, nearly 39 per cent of urban households were

without access to portable water within their premises. Approximately, 26 per cent of urban household have no access to sanitation within their premises and are forced to use open spaces. Sewerage system exists only in few cities. In such cities, only a part of sewage is collected and even less of that is untreated. As a result, discharge of waste leads to pollution, environmental degradation and health risks. Only a part of garbage generated in urban areas is collected, transported and disposed off. The accumulation of garbage along road side in huge quantities has become a common problem in most cities. In many cities, industrial waste, and municipal solid waste gets mixed up posing a serious environmental threat. Most of the cities are exposed to air and water pollution, and problems are posed by inadequate solid and liquid waste management.

There is a pressing need to evolve a strategy that can address the problems of urbanizing areas in terms of stipulation of infrastructural services. Large investments on building of urban infrastructure like, roads, rails, power, sanitation, sewerages and telecommunication are required for accelerating the growth rate of the economy and upliftment of social welfare.

Study area

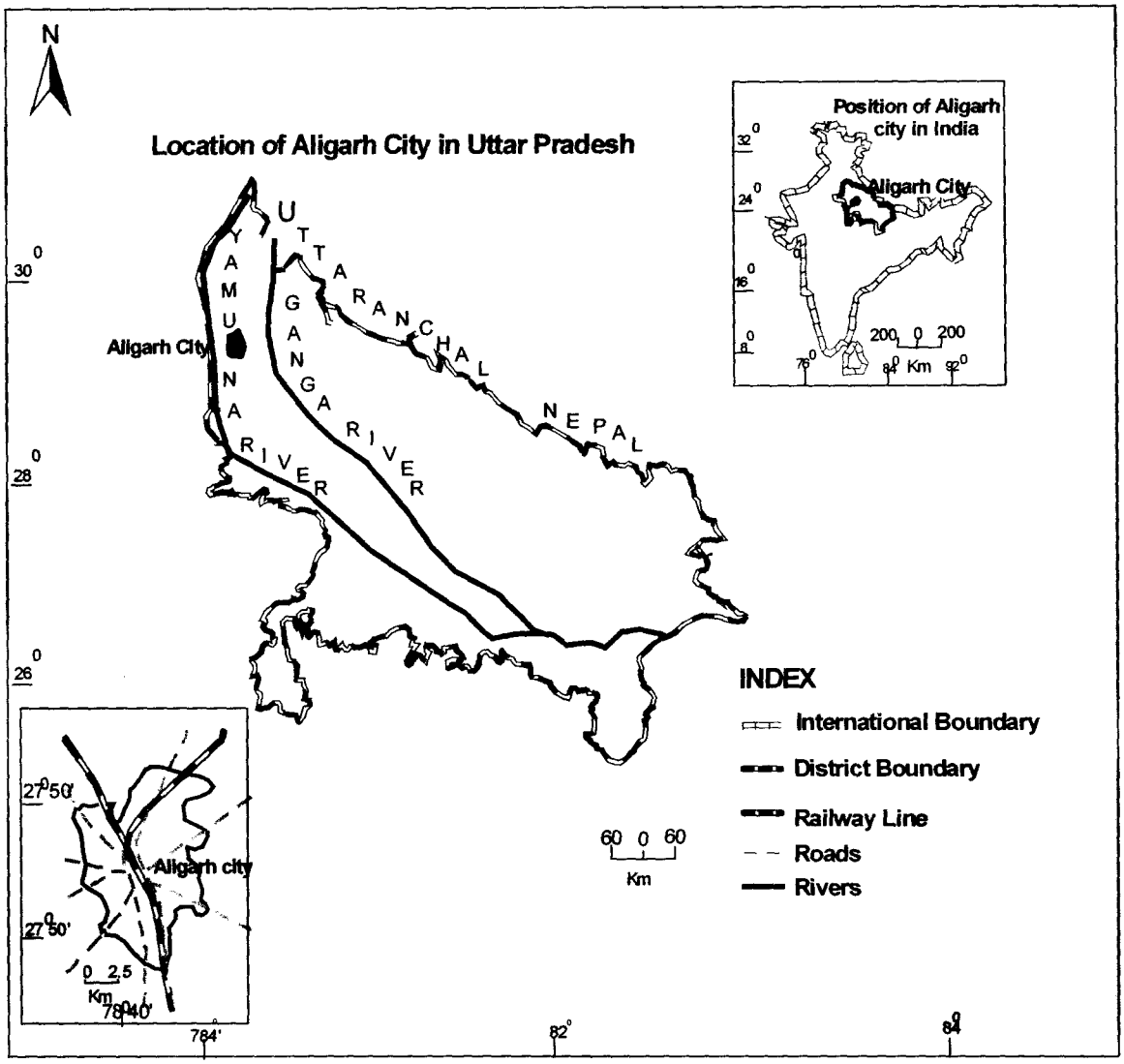
Aligarh is a medium sized city which spreads over an area of 36.70 sq km to form a part of U.P with the population of more than 0.7 million. It is located in between 27.53'N latitude and 78.04' longitude, and lies at about 130 km from New Delhi and 1408 km from Kolkata.

Objectives of the study

The present study is attempted for an assessment of the problems related with the process of urban development and social welfare development in the Aligarh city.

ALIGARH CITY

Location Map



Source: Department of Geography, A.M.U, Aligarh, 2004

Fig. 1

The present study has certain specific research objectives

1. To examine the distribution of the present infrastructural facilities, like housing, roads, drainage, sewers, health and education facilities in different zones of Aligarh city.
2. To examine the condition of the amenities present in different parts of Aligarh city.
3. To examine whether these facilities are easily available to the people living in the city or not.
4. To study in general the characteristic of the sample households like, family size, type of the family, education, profession, income and social status to asses their quality of life.
5. To compare and contrast between the infrastructural facilities available in different zones of Aligarh city.
6. To examine the relationship between the urban development and the quality of life.

Data Base

This study is based mainly on the data collected from primary sources, and partially the informations obtained from the secondary sources of data. Data from the primary were collected through city surveys, households surveys and interviews conducted with the respondents.

Some basic information was obtained from secondary sources principally from the following offices of Aligarh city.

- Municipal Board (Seva Bhawan), Aligarh

- Aligarh Development Authority (A.D.A)
- Office of the Chief Medical Officer (C.M.O)
- Office of the Basic Shiksha Adhikari (B.S.A)

Present work consists of five chapters.

First Chapter has been devoted to present geographical and historical details of the study area.

Second Chapter accounts for the history of urban development in India and presents the trends of urban development.

Third Chapter deals with to outline the infrastructural facilities in the Aligarh.

Fourth Chapter deals with the indicators related to social well being in the city.

Fifth Chapter presents the role and responsibilities for laying of the infrastructure facilities by the Municipal board of the Aligarh City.

Chapter I

A GEOGRAPHICAL FRAME OF ALIGARH CITY

a) Relief and structure

The Aligarh city lies in the central low lying tracts between the Aligarh drain in the west and the stream Sirsa in the east. The Aligarh city forms a part of the upper Ganga-Yamuna Doab which is a plain of remarkable fertility. The plain slopes down gently from north to south and southeast. The surface is spotted with several depressions formed by the river valleys and natural vegetation, while its elevation consists of simply slender ridges of sand. The most prominent of them are three regular lines running from north to south. The first follows the boundary between the Pragana of Tappal and Chandaus. The second may be seen along the right bank of a stream Karwan, and the third which is more uninterrupted and less defined lies a few kilometers in the east. These ridges continues through the upper portion of tehsil of Iglas and two of them enter Mursan Paragana of Hathras tehsil. In some places transverse spurs which reduce gradually into the level surface of the plain. To the west of Aligarh there are two parallel lines of high sandy ground running from north to south. The configuration of the ground is very similar to Doab, from the Ganga khadar level rises sharply to the high sandy upland which is flanked by the old high bank of the Ganga. From this point the level descends inland gradually to a depression drained by the Nim Nadi and Chooiya, beyond which it again rises to the bank of Kali Nadi. There is a sandy belt which rises from the low and the narrow khadar of that stream and is followed by the fertile belt of loam soil which gradually sinks into the broad central depression. The later traverses the entire district in a southeasterly direction roughly parallel to

the course of the Ganga. Entering from the north of the tehsil, it passes through the tehsil of Sikandra Rao. This tract is characterize by clayey soil, imperfect natural drainage and numerous lakes in which the surface water collects, without finding an adequate outlet. In consequence of the resultant saturation the tract is marked by the frequent stretches of barren usar and exudation of salt in the form reh. Beyond this depression the surface rises again into a level plain of rich soil, assuming a sandy character in the western part of the district. In the northwest the general characteristic of the Doab are same having loam alternating with clay in the depression with lighter ground on the banks of few rivers till finally forms a high cliff of the Yamuna from where the level drops to the khadar of that river. The southwestern part of the district presents some what remarkable features, for tehsil Iglas and part of the tehsil of Hathras contains a sandy tract of a very homogenous type.

The general level of Aligarh is extremely regular. Elevation of the ground surface is about 195m above sea level at Chandaus and Tappal in the northwest dropping to 189.58m at Soma in the center. The elevation where the Ganga canal enters the district is 193.24m above sea level and from here, there is a gradual slope eastwards to follow the direction of the Ganga.

The elevation above sea level being 186.84m at Atrauli and 180.74m at Dadon, while in the khadar the elevation at the points of the entry and exit of the lower Ganga canal are 178m and 176.78m respectively. Further south the level drops from 189m (on the bank of the Karwan near Khair) to 185.32m at Aligarh, and to 183.49m at Jalali. All these places lying on the same latitude south of this record elevation as 180.14m at Gorai 177.90m at Iglas, 180.14m at Sasni and 176.78m at Sikandra Rao. On the southern border heights above

sea level are 176.78m at Hathras, 175.56m at Hasyan and 176.96m where the Ganga canal leaves the district. The Grand Trunk Road follows the general line of slope and the length of roughly 80km, the level drops from 190.50m to 173.76m giving an average gradient of about one-fifth of a meter per kilometer.

b) Drainage

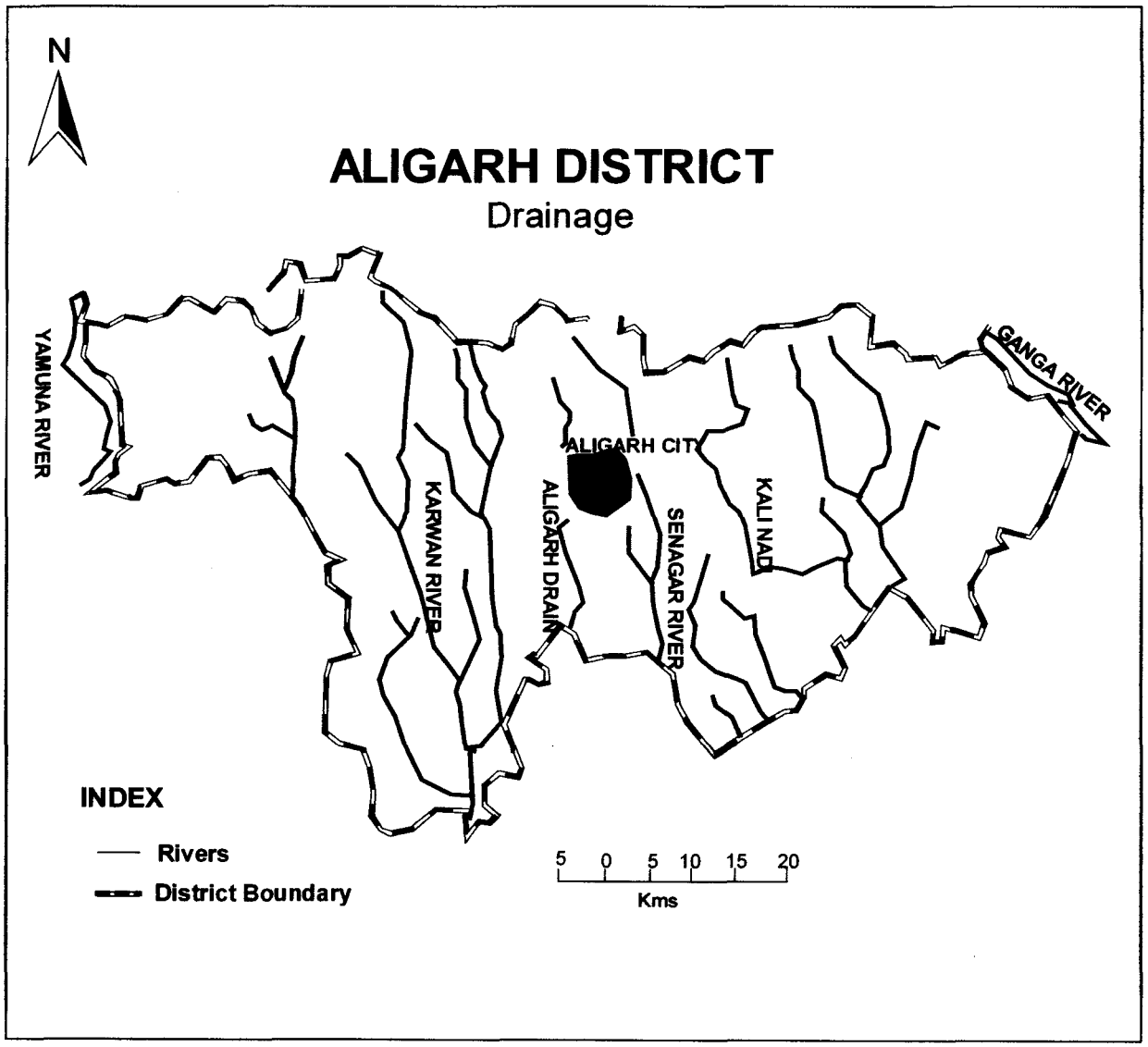
The Aligarh is well served by a number of streams. There are two types of rivers, which have their sources in snow covered mountain ranges of the Himalayas, namely, the Ganga and the Yamuna and they are perennial; and some of them are seasonal namely, the Karon, the Sengar and the Rind and are reduced to an insignificant water courses during the dry season.

i. The Ganga

The Ganga having its source in the Himalayas enters the north plain at Hardwar. From there it flows southwards up to Bulandshahar district, then it enters the Aligarh and takes a southeasterly direction forming the northern boundary of the district, and separates the Aligarh from the district of Budaun. This river brings new alluvium during the rainy season, the volume and velocity of the river is considerably increased because of the low-lying areas are frequently inundated during the flood period.

ii. The Yamuna

The river Yamuna has its source in the snowy peaks of the Himalayas, coming from the north, it then flows along the northwestern border of the Aligarh district, and then moves towards south into the districts of Mathura and Agra. The river bank rises gradually with a gentle slope giving room to fertile expanses of alluvial lands known as khadar. Its variation is much less extensive



Source: Survey of India Toposheet No 63H, 63L, 64I

Fig. 2

then that of the Ganga, for the actual stream has a well defined bank, which is topped only in years of heavy floods.

iii. The Kali Nadi

The Kali Nadi is the only tributary of the Ganga which traverses the district. It rises in the district of Muzaffarnagar and passing through the districts of Meerut, Ghaziabad, and Bulandshahr enters in this district from the north. It then flows southeast, and forming the western and southern boundary of the tehsil of Atruali, which is separated from tehsil of Aligarh and Sikandra Rao. It passes into the district of Etah near village Barhari. It is a perennial river, as it rises during the flood it causes a damage to the crops grown over the lands along its course. Nim Nadi is a small stream coming from the north and joins the Kali Nadi on its left bank. The Nim and Chhoiya Nadis join together and flow southward as Nim Nadi joins the Kali Nadi on the left bank. The Nim Nadi is mainly a seasonal river. It is seldom dry in hot season and inundates during the rainy season.

iv. The Isan

The Isan is a tributary of the Ganga, but it has its origin in several shallow depressions to the east of Sikandra Rao in the villages of Iklalpur, Kheria and Bargawan. It then flows in a south easterly direction in to the district of Etah, between the Grand Trank Road and the Kanpur Branch Canal.

v. The Rind

The Rind is an other drainage channel which becomes large enough before joining the Yamuna in the Fatepur district. The Rind flows through a shallow alluvial bed. In years of unusual heavy rainfall the low lands along it

are inundated and when the river recedes it leaves off a rich layer of alluvial soil.

vi. The Karwan

The Karwan River is also known as Karon and is a natural water course, it flows in a northsouth direction and passes through the Khair and Iglas tehsils of Aligarh district, and further southward passing through the district of Mathura it joins the Yamuna river near the city of Agra.

c) Climate

Climate forms an important part of the physical environment and influences human life and its culture. Climate determines the life style and its culture and food, habits, and shelter. So the study of climate and rhythm of season assumes a greater significance in understanding the life style of people. The Aligarh city has a tropical monsoon type of climate which is characterized by a seasonal rhythm of the southwest and northeast monsoons, in summer a hot and pleasant, in winter a general dryness is experienced except in the monsoon season. The cold weather season starts from the middle of the month of November and the early March is followed by hot weather season which lasts until the middle of the month of June. The southwest monsoon season takes on start from middle of month June and seizes by the third week of the month of September. This period extending from the last week of September to the middle of November is termed as the post -monsoon season.

The climate of Aligarh is similar to that of the Ganga-Yamuna Doab. In general the climatic pattern of Aligarh may be divided into four distinct seasons:

i. Cold weather season (December - February)

ii. Hot weather season (March - mid June)

iii. Season of general rains (Mid-June to mid-September)

iv. Season of retreating monsoon (October to mid-September)

(i) The cold weather season

This season is characterized with cold and dry air which blows from the month of December to February. Sky is clear, and very rarely clouds are seen in the sky. This season is associated with low temperature and high pressure conditions.

As a result this area comes under the influence of the high pressure belt. Frost may occur but it is not of great intensity. The maximum temperature is recorded as 23C, and minimum from 10C to 12C. The mean temperatures in the month of December and January are recorded as 15C and 12.2C respectively. The temperatures further fell due to blowing of cold waves coming from the north. During this season the winds blow from west and northwest to southeast direction. The winds are generally light and dry due to the continental origin. Sometimes in the last week of December a little amount of rainfall occurs due to western disturbances. The temperature begins to rise by the end of the month of February.

(ii) The hot weather season

Hot weather season begins from the month of March and lasts till mid –June. This season is characterized by an increase in temperature and a decrease in pressure. The maximum and minimum temperatures are recorded as 38C and 21C. Maximum temperatures in the months of May and June

remains about 43.5C and sometimes reaches up to 46C for a few days. The days are characterized by intense heat, dry air with relative humidity as 24 per cent. During the summer month hot dry wind blows with great velocity which is locally called as 'loo'. The relative humidity is reduced to lowest to the extent of 2 to 3 per cent in the afternoon. The most peculiar phenomenon is the occurrence of dust storms during the hot weather season. These storms usually occur in afternoon with strong air movement. A little rain sometimes is brought by these thunderstorms.

(iii) The season of general rains

The season of general rain coincides with the humid oceanic currents reaching northern parts of India during the months of July and August, because of excessive heat over the land causes a creation of low pressure. As a result, moisture laden winds come from the Indian ocean towards land and cause rainfall by the month of June. This season is characterized with cool air and frequent occurrence of rainfall. The temperature comes down from 40C to 27C in June, and 34C to 25C in July. The relative humidity increases from 30 per cent in the month of May and 74 per cent by the end of June, and 84 per cent by the months of July and August. The sky remains overcast. Actually in Aligarh the rains occurs with the onset of monsoon in the last week of June or the first week of July and continues till the end of the months of September or early October. About 90 per cent of rain is received in this season. A peculiar characteristic of the rain is that the rain does not occur continuously; after two or three days of continues rainfall, there may be a break or a period of dry spell which lasts for a week or ten days. The rainfall received at Aligarh amounts to about 65 to 75 cm annually.

(iv) The season of retreating monsoon

During this season weather is associated with hot winds and thus temperatures are increased but experience a fall in temperature by the end of the month of October. The maximum and minimum temperatures, recorded during the month of September were 33C and 24C respectively. This season is marked by clean sky, low relative humidity about 47 per cent and a little rainfall. The temperatures likely remain high during the day and a low during the night hours.

d) Soils

The soils of the district are similarly the same in composition and appearance as those of the Doab. Due to the sauce pan shape of district with the rivers of Ganga and Yamuna flowing on the relatively high land peripheries and a central low lying tracts, the alluvium brought by the rivers spreads over three-fourth of the total area, while the alluvium brought by the river Yamuna spreads over one-fourth of the total area of the district. Thus, soils of Aligarh are mainly made up of alluvium brought by these two rivers.

The alluvial soils of Aligarh district has been divided into two broad geological divisions:

The older alluvium (bhangar)

The newer alluvium (khadar).

The older alluvium occupies the level plains above the general flood limits of the main rivers and their tributaries where as the newer alluvium occupies the flood plain of the rivers and their tributaries as a result of the which the constituents of such lands are renewed every year. The alluvium chiefly

consists of various grades of sand, silt and clay. Beds of very coarse sand and gravel are commonly found. The soils differ very much in texture and consistency ranging from the sands through loams and silts to heavy clays that are ill drained and are some times charged with injurious accumulation of sodium salts producing a sterile deflocculated condition called *usar.*

The Atlas of Agricultural Resources of India, (Ed. Dasgupta 1980), shows four types of soils in Aligarh district.

1. Older alluvial soils.
2. Younger alluvial soils
3. Calcareous alluvial soils.
4. Saline and alkaline soils.

1. Older alluvium:

This soil type covers most of the area of the district of Aligarh. The soil texture varies from good quality loam to sandy loam. Its colour varies from light to deep brown. This soil is very fertile, some of the highest yields of the crops in the district come from these soil areas.

2. Younger alluvial soils

These soils occupy a narrow belt in the eastern corner of the district along the course of the Ganga and in the western corner along the course of the Yamuna. These tracts receive every year new deposits of silt and sands due to the floods in the rivers of Ganga and Yamuna. The colour of these soils vary from light grey to dark grey. The texture of the soil is sandy to silty loam. The water table is usually high near the surface. The drainage is imperfect, restricted and poor.

3. Calcareous alluvial soils

These soils occur in Iglas tehsil, Mursan block of Hatharas tehsil and Atrauli and Gangeri tehsils of Aligarh. They occupy mainly the Gonda block. The colour of these soils varies from brown to reddish brown. The texture varies from sandy to sandy loam. Due to poor inorganic matter of sandy nature and presence of insoluble salts they are not much useful for agricultural purposes.

4. Saline and alkaline soils

Due to imperfect drainage, the district contains vast areas of such soils which are either saline or alkaline. Unfortunately arid climate, poor drainage and high ground water table are the main reasons for salinization and alkalinization. These are mainly found in the tehsils of Sikandra Rao and Koil and in some parts of Khair, Iglas of Aligarh and in Hathras district. The texture of these soils varies from loam to clayey loam, while the colour is from grey to dark grey. Aligarh city lies in this soil region.

e) Cultural environment of Aligarh city

The Aligarh city covers an area of 34.98 sq km of which only 61 per cent is developed. Of the developed area 49.1 per cent is used for residential purposes, 28.1 per cent for transport, 9.4 per cent for industrial and commercial purposes, 7 per cent for public utility, 2.1 per cent is under parks and open spaces and only 0.4 per cent is used for recreational purposes. The city is divided into 70 wards which spread over 158 mohallas.

Like other cities of the state of U.P, Aligarh too has a distinct demarcation between the old and the new parts. Delhi-Kolkata railway line

separates the old and the new parts of the city. The old part of the city comprises of 48 wards and the new part 22 wards. The old city presents the picture of decadence having narrow roads, old and congested houses with improper educational and health facilities, and no open spaces. The new area is much cleaner than old part, which comprises of Aligarh Muslim University, which spreads over thousands of hectares of land. But new residential colonies and innumerable shopping centers have sprung up making this part as congested. Gradually the outskirts of the city are expanding encroaching upon rural areas and therefore slums have emerged at a rapid rate.

f) Population

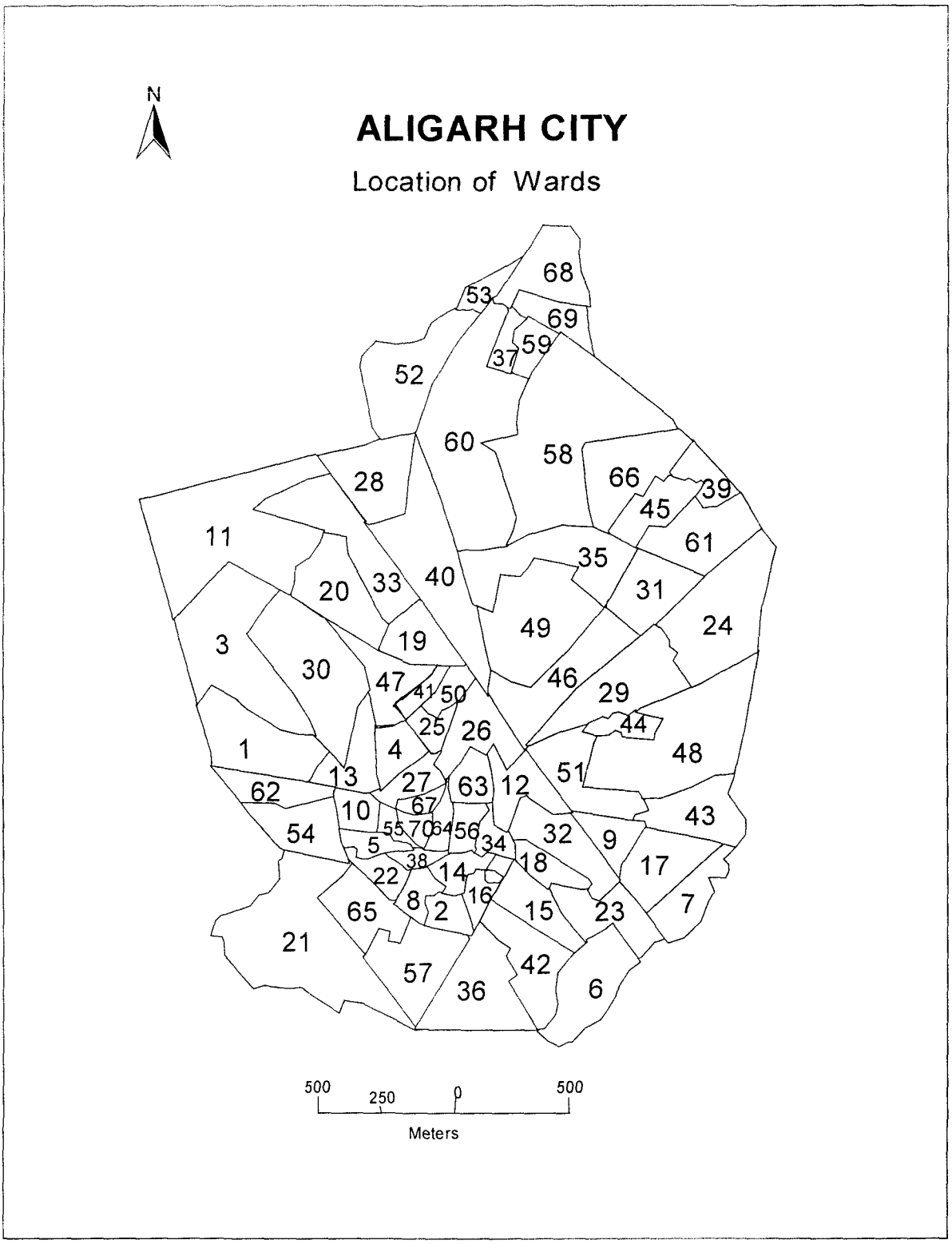
The total population of the city was estimated as 669087 persons in 2001.There is an increase in population to the tune of 6 per cent which doubles in every twelve years. Of this 2 per cent seems to be due to natural growth, and 4 per cent is made up by the migrants coming from different villages. The city population increases by nearly 36,000 persons annually.

Table 1

Population of Aligarh city (1971-2001)

Year	Total population	Males	Females	Decinnial growth
1971	252314	126650	125664	27.16
1981	320861	161475	159386	49.75
1991	480520	257391	231300	38.96
2001	669067	356725	312362	164.96

Sources: 1. Census of India (1971, 81, 91 and 2001).
2. Office of the Nagar Nigam, Aligarh.



Source: Office of the Municipal Corporation (Seva Bhawan), Aligarh

Fig. 3

According to 1971 census, total population of the city was 252314 persons with the increase of 27.16 per cent in 1981, it is estimated to be 320861 persons in last ten years the population has increased substantially with the growth rate of 49.75 per cent. In 1991, the growth of population was 38.96 per cent but in 2001 it shows a substantial increase of 164.96 per cent.

It seen that during the last decades the growth rate has been within the range of 35-40 per cent . In the last decade the highest growth rate was as 50per cent. The socio- economic compulsions have leaded the rural landless labourers to migrate to the city. The migration of the labourers has also reflected the sex ratio to be as 868 females per thousand of males.

Table 2

Density of Population (ward wise-2001)

Ward No.	NAME OF WARD	POPULATION OF WARD
1	Indra Gandhi Khair Road	10986
2	Sarai Garhi	9699
3	Nagla Kalar	10741
4	Sarai Lavaria	8608
5	Sarai Kaba	10529
6	Pala Sahibabad	10349
7	Dori Nagar	10478
8	Nauner Gate	9757
9	Naurangabad	8553
10	Delhi Gate	10107
11	Beema Nagar	10357
12	Sarai Deen Dayal	8467
13	Nagal Masani	10566
14	Sarai Bala	9516

(cont..)

Table 2 (contd..)

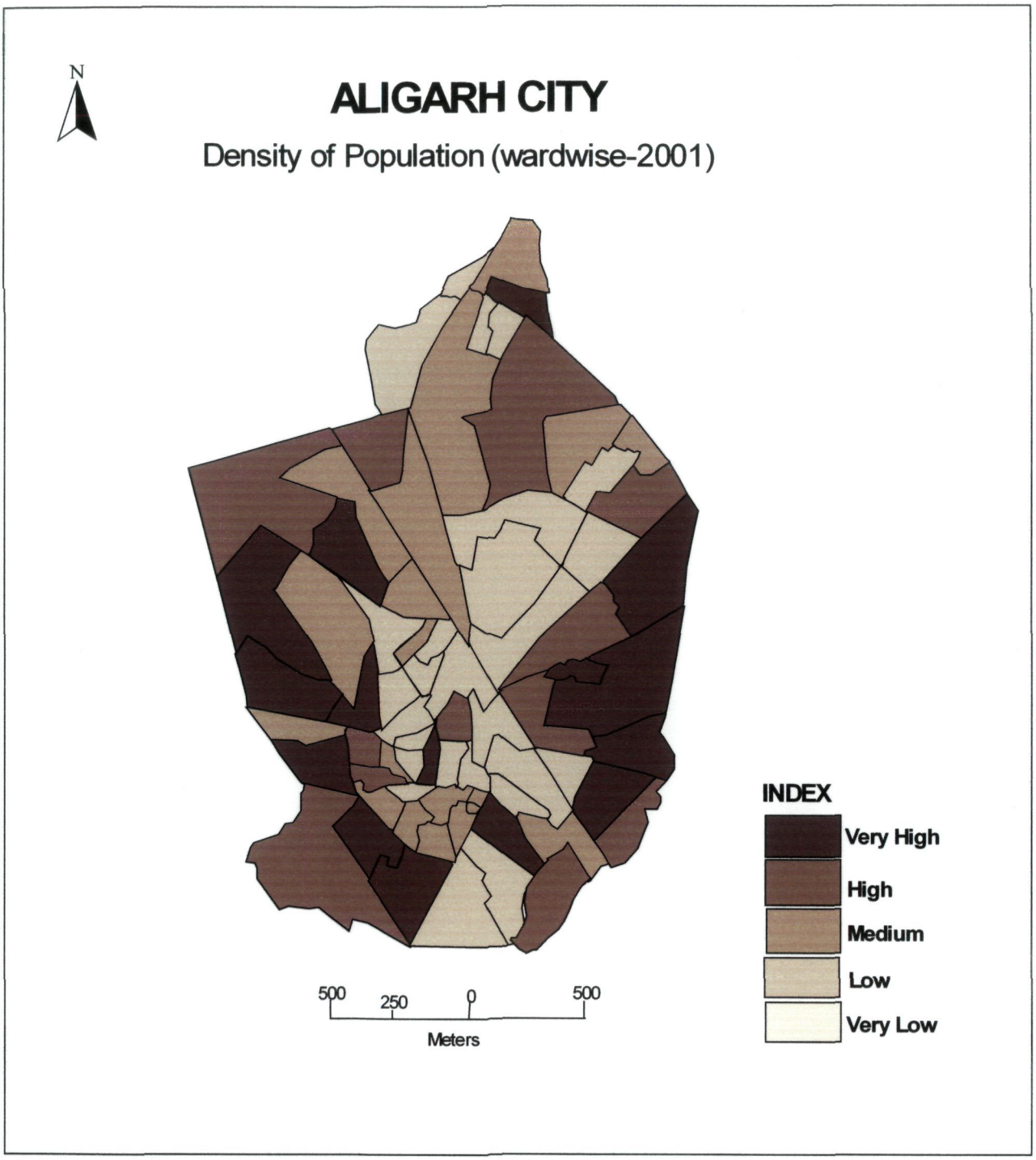
15	Krishnapur	10842
16	Durga Puri	9557
17	Chawni	10697
18	Gambhirpura	8568
19	Nai Basti	9797
20	Exhibition Ground	10772
21	Slaughter House	10472
22	Sanichari Penth	9249
23	Kalideh	9078
24	Kishanpur	10882
25	Sarai Hakim	8273
26	Sarai Nabab	8213
27	Kanwari Ganj	9012
28	Bhamola	9953
29	Sudamapuri	10409
30	Fire Brigade	9748
31	Begpur	8421
32	Gandhi Nagar	8697
33	Kishor Nagar	9200
34	Sarai Pakki	8183
35	Dodhpur	8968
36	Avas Vikas Colony	8494
37	Jamalpur	8214
38	Kala Mahal	8976
39	Jiwangarh	9775
40	Badar Bagh	9800
41	Shivpuri	9720
42	Vikas Nagar (A.D.A. Colony)	8140
43	Rawan Tila (Jawalapuri)	10919

(cont..)

Table 2 (contd..)

44	Begum Bagh	10938
45	Zohra Bagh	8614
46	Janakpuri	8734
47	Ashok Nagar	8627
48	Nagla Tikona	10811
49	Lekh Raj Nagar	8274
50	Rasal Ganj .	8406
51	Ghanshyampuri	10413
52	Firduas Nagar	8162
53	Maulana Azad Nagar	8173
54	A.D.A. Colony Area	10845
55	Usman Para-III	9455
56	Brhamanpuri	8368
57	Iglas Road Pumping Station	10938
58	Medical College	10136
59	Nagla Jamalpur	8955
60	University Area	9820
61	Kela Nagar	9991
62	Shah Jamal Area	9822
63	Manik Chowk	10006
64	Khai Dora	10649
65	Bhujpura	10878
66	Sir Syed Nagar	9473
67	Tan Tan Para	8612
68	Hamdard Nagar	9114
69	Badam Nagar	10724
70	Baniya Para	8407

Source: Office of the Seva Bhawan, Aligarh



Source: Office of the Municipal Corporation (Seva Bhawan), Aligarh

Fig. 4

(a) History of Aligarh

In earliest times Aligarh was known as Koil, which had been differently spelt out as Kol, Cole and Koil. Origin of these names is much debatable due to various views on it.

Koils were the tribals and professionally as weavers. It is also possible that the peoples residing this area before the Turkish conquest gave Kol its name, because as per the census of 1872 census, there were some 35,000 persons living in this area.

From the medieval period onwards this name has stayed for a long time and even today one of the administrative unit of Aligarh district is named as tehsil Koil. During the same period, it was renamed many times as Sabitgarh, Muhammadgarh, Ramgarh and finally the Aligarh. Present Aligarh takes its name from the Prophet Mohammad's (PBUH) cousin and son in law "Ali". Since Afrsyab Khan and his master Mirza Najaf Khan were 'shia',they named the fort as Aligarh. It was generally spelt as Aligarh but British authorities some time spelt it as Alygarh. After British annexation the entire territory was reconstructed and in 1804 for the first time Aligarh district was renamed. In the defance records of 1857 we see the name of city referred to as Koil.

Origin of Aligarh goes back to the pre-history . This is born by the legend and folk knowledge of the area. The presence of a large number of mounds and explorations point out, that the district was a part of Pandav kingdom, which moved to Ahar in Bulandshahar district after the destruction of Hastinapur. Nevill, is of the view that certain areas in the region were inhabited

by the Buddhist time and he mentions the Buddhist's remains were found in Balai Qila.

Explorations undertaken so far suggest that settlement of this region began around 1500 B.C, painted gray wares which are associated with Mahabharat were found at many sites, that makes one to believe that culture was established in the area around 1000 B.C and by 600 B.C. later in the 2nd century the area was under the rule of Mauryans, Sakas, Kushans and Nagas.

Archeological remains of Gupta period from 5th to 9th century A.D. Suggest that Koil was under the Gupta reign and later marked with the Harsha empire. From 9th century A.D on wards the area was under the domain of Gujars and Pratihars.

There has been a gap and unconformity between the ancient and medieval periods when nothing definite by is known about Koil till the12th century.

The end of the 12th century marks the beginning of muslim invasions. The fortress of Koil was captured by Qutubudin Aibak in 1194, he established slave dynasty of Delhi which had Koil on its fold. Balban, one of the king of this dynasty constructed a minar (tower) on the high ground of Balai Qila in 1253 at Koil to commenrate the victory of Sultan Nasiruddin Shah.

Aligarh emerged as an important center of muslims education and one of the scholars was picked up by Alluddin Khilji for imparting education in Delhi. The mosque of Balai Qila was built during this period.

Ibne Batuta, who stayed at Koil in 1343, describes Aligarh as a fine town surrounded by mangroves and recorded the cotton cultivation, green plantations and castor plant cultivation in the hinterland.

During the Lodhi period (middle 15th to early 16th century) fortification were built around the fortress, which was built around Balai Qila and was provided with four gates in it, the names survive even today as Delhi gate, Turkman gate, Sasni gate and Madar gate. A moat circumscribed the rampart and the name of locality Khai Dora remained of its existence till date.

Throughout the early medieval period, Koil appeared as an important city the term, khitta was used for Koil which was commonly used for large cities. The size of Jama Masjid also reflects the large and metropolitan dimension that the city might has attained.

The second quarter of the 16th century follows the establishment of Mughal empire which continued till the middle of 19th century. During Babar's period many buildings must have been built up by stones. Babri Mandi is the only reminder of this period. During Akbar's time Koil was the capital of an administrative *sarkar* which was divided into four *dasturs* and twenty one *mahals*. Indigo cultivation had reached high level of production which made Koil an important commercial unit.

Puter Mundy, who visited Koil in 1631 described it as a medium town with a castle and an important centre of salperte industry.

Toward the beginning of the 18th century after the death of Aurag Zeb, jats started emerging as the powerful *zamindars*, they traced their arrival to about 1646.

In the early of 18th century Sabit Khan was appointed as Governor of Koil by Mohammad Shah. He took great interest in building construction, and build a fort known as Sabitgarh in 1717, which is now known as Aligarh Fort and reconstructed the Jama Masjid at the fort in 1724.

In 17th and 18th century Koil had emerged as an important centre of learning and education. In 1760 Ahmad Shah Abdali captured Ramgarh Fort during his rule when Koil was ruined.

In 1775 Najaf Khan, a Mughal commander established his rule and sent his lieutenant Afrasyab who got vacated Ramgarh Fort and renamed it as Aligarh.

Marathas took over the Aligarh Fort in 1785 and appointed Count De Biogne as the commander of this region. The French commander in 1791 made Aligarh headquarters. After De Biogne, Marathas send General Cullier Perron to take his place. He improved the bastion of the fort and established a cantonment out side the present Sulaiman Hall. In 1802, Perron built a garden which is still known as Saheb Bagh. In 1803 General Lake conquered the town of Koil. At the commencement of British rule, in 1804 the district was formally named as Aligarh. In 1842 a post office workshop was established by Dr Patan, the Post Master General. The first railway line in the district was opened up in1863 from Tundla to Aligarh. The victory of Aligarh mutiny (during 1857) was celebrated for many days of valour. By 30th June 1857 a new government was established by Subedar Mohammad Ghous Khan with Nasimullah Khan as incharge of the city.

Chronologically speaking the ancient era, dominated by hindu population, the area dominated by muslim population and the British period was dominated by mixed hindu and muslim population.

g) Growth of the Aligarh City

The growth of the Aligarh city started slowly earlier, but due to the processes of industrialization and urbanization have accelerated the growth and

development. Industries, educational institutions, state and central government offices markets and apartments all have come up during the last four decades. All these activities have led a continuous physical growth of the city. The city is crisscrossed by nine city metalled roads. First the development started by the side of the roads, and when it spread to a sufficient distance from the center of the city, the houses were built along arcs connecting the two adjacent roads. The urban growth since 1951 shows that, the city development was mostly confined within 2 km radius in the east, west and in the southern parts. While in the north city area formed a bulge extending up to 5 km. This bulge is clearly visible along Anupshahar road and Ramghat road. In 1971 the city spread in all the directions to cover an area assuming 4 km radius. By 1991 urban growth was equal in all directions except the north where the urban sprawl spread with a radius of 7 km along the Anupshahr road, and a 6 km radius along Ramghat and G.T roads. After 5 years there has been a rapid growth, but a little development is seen along the Gonda and Khair roads. The city developed in a dispersed pattern, leaving pockets of vacant land inside. It is observed that the urban growth was intensified along the main transportation lines. But a rapid urban growth is seen along the Anupshahr road and Ramghat road in the north. Lowest urban growth has taken place in areas southeast along the Hathras road.

In 10^{th} century cotton industry developed. Pottery was introduced by Hendreson in 1823 and he also made improvement in the manufacturing of cotton, preparation of indigo and fine gun powder. With the beginning of 20^{th} century industrial activity flourished and diversified. By the year 1907 brass and iron lock industries were established and there were 27 lock factories in Aligarh. High quality locks were traded throughout India and abroad.

Economic well-being is reflected in Koil. The center of the town is made up of high site Balai Qila, now known as Upper Kot, it is the place from where settlement started growing. British developed the city in the north between the old town and Aligarh Fort and designated it as Civil Lines. It was here that railway station, Judge's court, Clock Tower, Collectorate, Post Office, Government Press and Churches were built along with the Building of Scientific Society at the Aligarh Muslim University founded by Sir Syed Ahmad Khan.

h) Morphology of the Aligarh city

On the basis of morphology, Aligarh city has been divided into the following four parts:

1.The Upper Kot Area

This area historically represents the older part of the city. It is largely inhabited by Muslims these families belong mostly to the working class and middle class people. Some of the families living here since the medieval period and represent the social elites of the area. This area is mostly dominated by business class, who own household industries like lock, biscuits, mutery, building; fitting and other hardware industries are very common. This has improved the well being of the people, but on the other hand it has polluted the whole environment and also led to the congestion in the area, which has affected the health of the people.

2. Achal Tal Area

This area is dominated by hindus, where the settlement dates back to the 10^{th} century. In the later period, the development of this area took place between Manik Chowk and the Madar Gate.

3. Civil Lines Area

This area was developed by the Britishers in early 19th century. It has a completely segregate in from the first two. The principle lines of development were along the Marris road, University road, Aunpshahr road and Ram Ghat road. All the aforesaid roads have a north south orientation and seem to have been oriented with reference to the railway station. This area has large spacious houses with lawns in front kitchen and gardens in the backyard. It represents a refreshing contrast to the congested area of the old city. But now it is getting too congested very fastely.

4. Peripheral Ring Area

This area has developed recently. Many of these areas are still with the villages. These are the areas marked with dominance of one or the other functions. These areas are developing at a very fast rate. Some of the new colonies in the areas are: developed are Dhorra, Bhamola, Firduas Nagar and Maulana Azad Nagar.

i) Urban land use

The urban land use of Aligarh city shows that the city covers an area of 68.97 sq km, of which only 67.48 per cent has been developed, and the rest of the area is lying little developed. The urban land use pattern shows that there is no clear-cut demarcation in land use pattern, and the functions are mixed.

Table 2 shows that of the total developed area of Aligarh city comprises 67.48 per cent and undeveloped 35.52 per cent . It is seen from the table that out of the total developed area, 77.89 per cent is under residential, 0.55 per cent recreational areas, and 0.06 per cent is undeveloped. In most of

the areas industrial and business activities are mixed with both residential and business activities in various proportions. Some household industries are located in old parts of the city and piecemeal production is carried out in houses extensively. There are exclusively residential areas, which have developed on the peripheral zones.

Table 3

Urban land use in Aligarh City (2000-01)

Urban land use	Area (in ha.)	Percentage
a)Developed area	4654	67.48
Residential	3625	77.87
Educational institutions	398	8.55
Commercial	186	4
Transport	169	3.60
Industrial areas	148	3.18
Recreational areas	86	1.42
Play grounds	27	0.08
b)Undeveloped	2743	32.52

Source: Office of the Aligarh Development Authority, 2004

j) Residential structure

The Aligarh city is expanding very fast, and it has sprawled a lot during the last three decades, because of this many villages have merged with the city expansion. Large number of the residential plots purchased by the people and beautiful colonies have emerged. Nearly 77.89per cent of the total land of the Aligarh city is in use for residential purposes. Residential structure of the city can broadly be separated into, the eastern and the western part, with railways line making a divide. The eastern area consists of the old city,

characterized by old houses lined with small shops. East of the railway line comprises the new part, the Civil Lines area and the Aligarh Muslim University area. This has become the residential area for urban elites. Elegant compact colonies with high quality spacious houses have come up, but now this has also become congested.

k) Occupational structure in the city

The Aligarh city is multi-occupational in nature ranging from a number of persons unemployed to employed in good jobs. A majority of the people is engaged in business, ranging from small to big shops. Then comes the clerical grade jobs, and mechanics. In the old walled city of the Aligarh, people are engaged mostly in the small scale industries like manufacture of locks, and parts of locks, making plus, iron and silver meltings are generally performed in different localities of the old city like Atish Bazan, Usman Para, Turkman Gate and Kala Mahal. Some acid processing factories are also found in Kanwari ganj. In other muslim dominated mohallas people are engaged in small cloth stores and the mechanical work done or as labourers.

People living in Civil Lines and in some other mohallas are in class one jobs like doctors, engineers, lawyers and teachers. Ladies of their families are also working on top posts of government services. Their children are also studying good professional courses.

Chapter II

HISTORY OF URBAN DEVELOPMENT IN INDIA

The seeds of urbanization germinated first in the Indus valley around 2500 B.C, but the actual sequence of this event had remained a great mystery till date. One should first of all consider early village settlement for more positive clue for the better understanding of successive urban development.

It was during the late Stone Age that people started living in permanent shelters, in caves and rock shelters. Hunting and gathering were the main occupations of these people, the flourishing village culture could be considered as the first step towards later urbanization, but it does not appear as the direct result of the process of transition from food gathering to the food production. The excavations of sites reveal no data about existence of any pre agricultural stage with hunting and gathering as the primary bases of living. Although it all happened on the Indian soil but it parenthood is doubtful, on the contrary evidences of cultural similarity in these settlement and those of West Asian speaks of foreign influence on the origin of Indian settlements.

Evidences are lacking which may point out the gradual transformation of villages into the urban centers. Hence, it may be quoted that the urban culture did not directly evolve out of rural environment, but its ancestry lies in this direction.

a) First phase of urban development in India

In the middle of third millennium B.C urban life in India was on its full expression and the Indus valley considered to be the first place from where this phenomena started. The urban development designated by archeologists as

the Harappan Culture found it's zenith in the metropolitan cities like Mohanjodaro and Harppa in northwest India, both the cities have confirmed certain distinctive principles of urban planning which provides the first example of planned city culture in the world. These cities had solid towers, large buildings, the Great Bath, the State Granary and Citadels, the religious and headquarters of the empire, planned streets with underground drainage system well connected to the drains of houses by pipes and city drainage finally found in soak pits which were emptied into the rivers. All these signifies the existence of strict municipal bodies in these cities. Buildings and houses were made up of bricks and water coming from wells constructed in most of the big buildings and houses, these in turn were equipped with drains, bathrooms. It gives us an idea about the social status at that time.

Copper and bronze were used for the manufacture of utensils, blade-axes, knives; fish hooks etc. metallurgy also had a significant place in the industrial activities. The most important feature of that civilization was the same pattern of the urban planning was followed all through the centuries of city rebuilding.

Urban development in this phase was at its zenith and has a very strong impression. The light of urban civilization went out of India for the period of 1500-1600 B.C, with the fall of Indus civilization due to some natural calamities and other reasons. But this is not doubtful that Indus people were the founders of urban development in India.

b) Second phase of urban development

Indus civilization ended in around 1500 B.C and it left a vacuum for about five centuries during which urban development appears completely halted in the entire country, a fresh beginning of development took place

around first millennium B.C by the Aryans. Epics like Mahabharts and Ramyana throw some light on Aryan cities. These cities provide many evidences of an urban civilization, which emerged in about 1000 B.C and extended its influence up to the area of middle Ganga. Aryan civilization is regarded as the most important turning point in the urban history of India. Urban development at that period gradually acquired a momentum; they build many large cities.

They were the first who introduced iron ploughs with the help of which they brought improvement in agriculture. Many specialized industries were established producing objects like wool, leather, and fur.

Many Roman and Greek scholars like Strabo, Pliny, Arrain had given a on account of urban development in India. Quite a number of urban functions provided a base for the development to many big cities. Some of them were really great, but their records were more concentrated to the position, physical characteristics. Claudios Ptolemy (90-168 A.D) had given some comprehensive details of the urban development of his time.

Hiuen Tsang, a Chinese traveler has given an accurate idea about the conditions of towns and cities of that time. According to him, "the towns have inner gates, with very high walls, the streets and lanes are wide. The thoroughfares were dirty and slats were arranged on both sides of roads with appropriate signs. The wall of cities were mostly built up of the bricks and tiles. The towers on the walls were constructed with help of woods and bamboos, the houses have balconies and belvederes which were made up of woods. The walls were covered with lime and mud." From this account one can conclude that urban development at the time of Aryans was expanding and improving,

but the cities were lacking in meticulous planning, central part was occupied by royal palaces, houses developed around these palaces gives a compact look, basic amenities with municipal vigilance were completely lacking in these cities. So we can say that, Aryan civilization was much behind the Harappa culture in terms of urban development and quality of life.

c) Urban development in south India

Urban development in south India is attributed to Dravidian culture, two states of Tamil Nadu and Kerala show high level of urban development at that time. A distinctive feature of the urban development of this area was the existence of two capital cities for each kingdom, Madurai and Kanchimpuram were the most important.

The cities comprised of the King's palaces; the temples which were surrounded by many walls, but the common people have to live outside the walls.

d) Factors contributing to the urban development since the early historic period

Agriculture, industry and efficient communication system were some of the major sectors without which urban development could not have taken place on such a wide and prosperous manner. Hence it will be worthwhile to review the situation and the conditions of these sectors at that time.

i. Agriculture

Agriculture was the principle means of livelihood. There were lands belonging to states, government employs, beside this some lands also belonged to farmers. Megasthenes, has presented a very bright picture of India in his

work, according to him, "fertile soil, efficient irrigation, use to give two crops a year supplemented by sufficient rainfall. Food supply was so abundant that no famine took place in the country till date. State maintained a large number of cattle and other animals in the charge of separate officials".

Agriculture constituted the back bone of the Indian economy is amply by its reference occurring in the writings of Eratosthenes, who pointed out the striking regularity of copious rainfall guaranteeing double crops. Among the crops mentioned by him are rice, flax, wheat, pulses, jowar and bajra etc.

Hieun Tsang, visited India in the middle of the 7^{th} century A.D had made a copious reference to agricultural conditions, major crops were rice, wheat, corn, fruits, mustard seeds etc, milk products were widely used by the people.

ii. Industry

Industry played a vital role in social life in the country. It boosted up mobility of the people from place to place, in the form trade. It may be noted that, industrial development gave a push to urban development, on the other hand industries developed on the bases of urban market and focused on urban needs. Market facilities played an important role in the industrial development. Periplus, has given an exhaustive list of articles of trade; specialized products include coloured pearls, lac, silk thread, cane sugar, gold, stone, cotton etc. Haridwar, Gujarat, Kannuaj were the important industrial towns of that time.

All these had direct impact on the urbanization of the country where the growing stature of non-agricultural activities boosted up the rate of urban development.

iii. Trade commerce and transport

Trade and commerce were having a well defined place in the country's economy since the early time. This fact is proved by the existence of the merchant class in the society and the large scale movement of goods irrespective to physical as well as political barriers. Trade was a highly expensive at that time due to the huge taxes and entry fees.

Panini, in his writings has mentioned the importance of trade and had given a list of export and import items, like precious stones, perfumes, cotton, wood, spices etc.

Thus India maintained a unique position in the commercial world as the main supplier of luxury goods. Trade and commerce also pushed up urban development, merchant class paid attention for the provision of civic amenities in their locality and that is how cities with good infrastructural facilities sprung up all over the country.

The first mention of internal roads operating as the main trade route is found in the Buddhist literature; well established trade route both land and water covered most part of the northern India in 300 B.C. The Mauryan Empire extended then further to south India. The most important road was Imperial Highway or Royal Road, running for about 16,000 Km traversed the entire Great Plains and continued in the Central Asia.

The main rivers like the Ganga, Indus, and those in the south constituted the principle commercial arteries of the country carrying both goods and passengers.

e) Urban development during the medieval period

Medieval period in the history of India is dominated by Muslim rulers, they invaded India in the 11th century before their rule Rajputs and Cholas were ruling in the Western and Central parts of India. Their invasions played havoc with already declining urban phase, these invaders razed the cities to dust and imposed their rule in India by the 1526 A.D, Mughals decided to live permanently in India and set up their empire.

Mughals realized that the urban prosperity is the only way which could enrich the royal exchequers and this could be done only by the stable administration.

India attained a high level prosperity and economic development during the Mughals rule. Mughals constructed many beautiful buildings and very excellent network of roads like Grand Trunk Road; they developed the country by developing a transportation network.

In spite of the widespread nature of urban development, the material standard of the urban centers in the respect of their houses, streets, were not of very high standard, beside the capital cities like Delhi, Agra and Hyderabad, these cities have palaces surrounded by number of buildings in a fort with good houses and better street conditions. There were big market places with innumerable shops. Mosques, public baths, squares and gardens with all civic amenities were found but only in big cities. On the other hand small cities do not have planned network of roads and streets, there was a haphazard overlapping of residential, commercial and industrial land use and civic amenities were lacking in these cities.

The over all picture that emerges pointedly refers that all most all the cities of that period have pre-industrial slums providing residences for the poor urban dwellers. The cities were divided into two sections, the smaller sections were having royal palaces and the larger sections were formed by the masses of low, poorly built and congested houses on the narrow lanes.

Regardless of all this Mughals contributed a lot in the urban development which is evident in the work of many scholars who visited India in that period.

Ibn-e-Batuta a muslim trader visited India in the 14th century and wrote about the cities and towns of India in his travel account and made a special mention about Delhi as one of the greatest city of the world with respect to architecture, urban development and planning.

According to Barni, "at that time there was safety on roads in all the direction. Agriculture received special encouragement during the muslim rule, many big canals were constructed for the irrigation, gardens were planted and forts were built to provide shelters to the people.

Abul Fazal a courtier of Emperor Akbar in 1542-1605A.D in his work Ain-e-Akbari and Akbarnama brought forward that urbanization was no longer remained as an isolated phenomenon, but had diffused throughout the country. He also considered agriculture, industries and trade as the main contributing factors in the field of urban development during Mughal's reign.

f) Urban development during the British period in India

British period is the most important part of the Indian history in which lies the roots of the most modern Indian development.

In the 17th century European powers came to India as traders. The East India Company after receiving the permission from Mughal emperors started a factory in Surat and slowly spread throughout the country by the end of the 17th century. Indian goods were excluded from the list of export items by the Britishers and they planned to crush Indian industry by bringing their goods at a very low price, which had created a vacuum, and a modern colonial economy was created in India. Thus India was reduced to an agricultural colony of industrial England supplying raw material and providing large and cheap market for their products, as a result a deep root feeling was developed in the Europeans that India should remain an agricultural and rural economy for their selfish interest.

Nehru in 1960 had expressed that, "India was far more advanced and had higher civilization in the later part of the 18th century; literacy in India was very high with better civic amenities".

g) Construction of railways

Railways had brought a new revolution in India, it is considered as the most active step towards the urban development in the country, East India Company in 1843-53 had given first proposal to construct railways in India, with the aim to carry raw material to the ports easily they were never concerned with the development of hinterlands. Large ports like Bombay, Calcutta and Madaras were connected by railway tracks; this led to the development of textile industries in these cities. Although railways laid the foundation of the large scale industries, but this facility was confined to the ports only.

Though British rule introduced "Industrial Age" in India but under sever restriction. According to Brahama, Pore and Pore in 1975, "in British reign the Indian economy came into the fold of the international market in a big way. It served as the supplier of the raw material to the British industry and a captive market for their products. The process of commercialization and the modernization however did not bring in its wake subsequent development of the economy".

As explained by Pathak in 1975, "independent India inherited what may be called a semi-urbanized and semi-industrialized pattern centered on the big metropolis mainly Bombay and Calcutta".

Later in the half of the 19th century British power extended in the interior and several other cities sprung up as centers of communication and trade like Kanpur, Ahmadabad, Hubli, Barielly and Nagpur.

Britishers also developed many hill stations for the recreational purpose like Simla, Mussorrie and Nainital. They opened up missionary schools for the promotion of western education and culture in these areas.

h) Urban local bodies in the British period

Britishers introduced municipal bodies in the cities and town for more effective growth and development.

The history of municipal government is divided into four different phases:

(i) First Phase (1833-1882)

The first local government was introduced with a power to levy house tax and a responsibility to provide civic amenities. In 1870 Lord Mayo's

resolution brought a change in the administration. A scheme of decentralization of administration was introduced, facilities like education, health and roads came under the provisional government for these purposes they were also given some grants.

(ii) Second Phase (1882-1919)

On 18th May 1882 Lord Ripon's resolution laid the foundation of the system as it is exist today. The principles include, provision to have at least two-third members of municipalities as non-officials. System of elections was introduced for the selection of the chairman or head of the municipality.

Several taxes such as octroi, house tax and property tax were introduced; housing lighting of roads, public health and education were included in the duties of municipality.

(iii) Third Phase (1919-1935)

This period is influenced by the recommendation of the Royal Commission on the decentralization in 1907-1908 which led to the resolution of 1915 of the Government of India. The reforms incorporated in 1919 made a clear cut demarcation of tax collection power of the local bodies. The local taxes were toll taxes an the land values, on buildings, vehicles and on animal trade.

(iv) Fourth Phase (1935-1945)

This phase was started with the inauguration of provincial autonomy in 1935. Further decentralization was made in respect of local bodies. Though functions were enlarged but the revenue collection had decreased so local bodies became more dependent on the grants and aids.

i) Urban development after independence

In the post independence era the political leaders believed in the efficiency of urban development through planning. As it has been stated that the national plan appeared to have joined the national anthem and national flag as a symbol of sovereignty and modernity.

Independent India embarked on a national programme of development. In this endeavor, 'planning for urban development' occupied a prime place. Planning encompassed policies for various aspects of city progress to bring about the necessary changes. In 1950, the Planning Commission was established by the Government of India. With Nehru as the Chairman of Planning Commission was given the task to further articulate and implement through Five Year Plans, the national policy directive and development objectives. The setting of Planning Commission enabled the central government, to take the initiatives for policy making, through formulation of Five-Year Plans.

Thus the central government's statement on the urban development and policy as expressed in the national development five-year plans reflect the general policies being followed by the central and state government.

The national policy issues were incorporated by the Government of India which also allocate the resources to the state government through variously sponsored schemes and assistance programme for the housing and urban development in the country as a whole. Ministry of Urban Development is an apex authority of Government of India at the national level to formulate policies, where as central ministries, state government and the local bodies are given the task to monitor the issue of urban development in the country.

According to the India Constitution, urban development is a state subject. Without a constitutional amendment, the central government does not have the power to pass legislation on urbanization, urban development and urban planning. However, urban development as the state subject had received a scanty attention in almost all the states. Thus what exists as the urban policy for urban development, has estimated more often than the central government. Hence five-year plans were made as the policy proposals for the urban development.

j) Government's role in urban development

Urban development activities are concerned on the three levels of government- centre, state and local and also among civil society organizations. Though urban development policies are related to the state government but the central government has played a much important role in this field since after independence.

Urban local governments are established for the purpose of urban administration and development. Since urban local bodies have only those powers which are given to them by the state government, this prevent them from effectively achieving their goals, they have been ill equipped in terms of resource, skills and infrastructure.

After independence many ambitious measures were taken in order to transform the socio economic scene of urban areas in India, in the form of five-year plans.

The First-Five Plan (1951-56)

This plan was mainly concerned with the problems of agricultural sectors because soon after independence these problems required urgent

national attention. Moreover, with the limited resources government had top priorities to achieve these goals. Therefore, matters related to urban development occupied low position in list of First Five Year priorities.

The Second Five-Year Plan (1956-61)

Central scheme was initiated to provide financial assistance to the states and local bodies for clearing big slums in big cities. In this plan an attempt was made to operationalise the Modernisation theory. There was a belief that the underdevelopment could be overcome by the technical and organizational structure that would made development possible in the industrialized countries.

The Third Five-Year Plan (1961-66)

In this plan more attention was paid urban planning in India. Through this plan government for the first time, formulated an urban planning and land policy. The main objective of this policy was to achieve a balanced development in different urban areas of India by establishing large, medium and small scale industries.

The most important contribution of planning in this plan period was the diffusion of the ideas of town planning, from the centre to the states. Master plans were made for the capitals and other growing cities.

This plan recognized the role of industrialization in the urban development. It implemented a policy aimed at the establishment of heavy industries away from the big cities. It is also important to stress here that this plan also took note of urban community development schemes in selected cities to solve the problems related with the slums. The plan also emphasized

the need to strengthen municipal administrations for initiating new development policy.

The Fourth Five-Year Plan (1969-74)

This plan stressed the need for the regional approach to the issue of the urban development, decongestion of cities, dispersal of urban population, adoption of the community development programme for the cities as well as the environment improvement in urban slums. During this plan government recognized the urgent need to check population growth of big cities like Kolkata and Mumbai and also to initiate population dispersal to reduce pressure on the big cities.

Towards the end of this plan an agency was established Housing and Urban Development Corporation (HUDCO) to provide funds for the metropolitan authorities, state housing boards and other urban institutions to finance scheme for the construction of houses in the urban areas set by the state and central government.

Certain states government during this period took serious steps to disperse industries in their states like Ahmadnagar, Aurangabad, Nagpur, Nasik and Tarapur, which are intermediate cities of the state.

The Fifth Five-Year Plan (1974-79)

This plan emphasized the need for the environmental improvement in the big cities. There was an increased concern and recognition of urban problems, among these urban poverty was most important. Many development programmes were launched during this plan and Urban Development Authorities were set up by the state government in big cities.

Small and medium towns were given special attention to highlight the urban growth and to check the population pressure on the big cities. In 1976 The Urban Land (ceiling and regulation) Act was introduced as a part of this plan, it put a ceiling on the ownership of the vacant lands in the urban agglomerations and there by sought to secure more land for public use, including provision for social housing.

The Sixth Five-Year Plan (1980-85)

This plan stressed more emphasis on the integrated development of small and medium towns, as initiated in previous plans. This was done with the view of promoting development of not only small towns but the rural areas as well, by their functioning as the growth centers.

The National Policy on Urbanization highlighted the urban problems and indicated that each region's urban development should be viewed in relation to the surrounding areas. As far as making provision for urban areas were concerned there was specific mention for slums. This was primarily in response to the alarming problems of slum settlement in large cities.

Thus Sixth Plan, therefore, made substantially larger provision for the environmental improvement of the slums.

The Seventh Five-Year Plan (1985-90)

This plan had continued with ongoing programmes initiated in the earlier plan. In this plan government noted the rapid growth of metropolitan cities and the slow growth of small and medium, indicated by the statistics of the 1981 census. As a result, the seventh plan stressed the need for the integrated development of small and medium towns and the need for slowing the growth of metropolitan cities.

Main contribution of this plan was the creation of Urban Infrastructure Development Finance Corporation, to provide capital for the development of the infrastructure in small and medium towns. Beside all this two schemes namely Urban Basic Services for the Poor (UBSP) and the Nehru Rozgar Yojana (NRY) the main objectives of these schemes were poverty alleviation and the generation of urban employment.

The Seventh Plan laid emphasize upon the revitalization of civic bodies and greater devolution of funds to the local bodies. This plan stated "serious efforts will be made to involve voluntary agencies in various development programmes, particularly in the planning and implementation of the programmes of the rural areas".

During this plan an attempt was made to grant constitutional status to urban local bodies as a precursor to their regeneration. On the 7th August 1989, a bill was introduced in the Lok Sabha to strengthen urban municipal bodies. This bill referred to as the 65th Bill, 1989, incorporated some of the major recommendations of the National Commission on Urbanization which had submitted its report on August 1989. The bill sought to create a third level of urban government, below the level of the union and the states. But it was failed to pass in the Rajya Sabha in 1989. After the modifications the bill was reintroduced for ratification as 74th bill in 1992 and the Act came to force on March 1993.

Meanwhile report of the National Commission clearly pointed out the critical deficiencies in various services of infrastructure, the concentration of the poor and deprived people, the acute disparities in the access to the shelter

and basic services, deteriorating environmental quality and the impact of poor governance on the productivity and the income of enterprises in the cities.

Urban component was accorded only a secondary importance in the previous plans, these plans also suffered from many shortcomings, which are mentioned below:

i. These plans did not gave any comprehensive appreciation of the India's urban problems, nor was there any framework for dealing with the increasing problems of urbanization. Though the urban population was one-sixth of the total population in 1951 and over one-fourth in 1991, the outlay for the urban development was less then three percent in virtually all plans. It was pointed out that, "the central and state government pursued laissez-faire policies of urban development".

ii. There has been a strong feeling that urban problems escalated because there was any clear cut policy or even philosophy for the urban development. Ashish Bose lamented about the "lack of social philosophy for the urban development" in 1971 itself. This could be due to the compulsion of first finding a solution to the rural problems, therefore urban development took the back seat.

iii. Another important missing dimension in the plan documents was the element of the people's participation. Beside this there was a very wide gap between the promises and performances.

iv. The most important lacuna was in not giving urban development an independent identity. Because urban development was often associated with work, housing, water supply and health. At the state level also urban development responsibilities were diffused.

v. Above all these weaknesses, one of most glaring errors was in the fact that there have been policy proposals on the policy of industry, agricultural improvement and population growth but there has been no national urban policy until the eighth five year plan.

Table 4

Plan Outlay in Housing and Urban Development

Plan	Total outlay (in crores of Rs)	Funds allocated in housing and urban development (in crores of Rs)	Share from the total (in percentage)
First plan	20688	488	2.1
Second plan	48000	1200	2.5
Third plan	85765	1276	1.5
Fourth plan	157788	2702	1.7
Fifth plan	394262	11500	2.9
Sixth plan	975000	24884	2.6
Seventh plan	1800000	42295	2.3
Eighth plan	4341000	105000	2.4

It is clear from Table that the plans for the urban sector despite of its increasing importance has in fact declined significantly.

The Eighth Five-Year Plan (1992-97)

This plan encouraged investments in urban development. It emphasized the government to play a role of creating an environment that would encourage people's initiatives rather than making them dependent on the government.

This plan also emphasized on the 'Human Development'. Thus the eighth plan was qualitatively different from the previous plans in its aims,

because, only from this plan a clear cut progress was expected in urban governance.

The eighth five year plan, for instance, emphasized human development as the core for all developmental efforts. The plan recognized for the greater involvement of the voluntary agencies that have the ability to demonstrate and innovate and act as support mechanisms to local level institutions. It also recognized the role of the government in facilitating the process of the people's involvement by creating the right type of institutional infrastructure.

The Ninth Five-Year Plan (1997-2002)

Main objectives of this plan was for "ushering a new era of people oriented participative planning, in which people at large and especially poor can participate".

This plan envisaged for expansion and improvement in social infrastructure like health care, education, housing, water supply and sanitation in urban areas. For some sectors like housing, specific targets to be achieved within a define time framework; for other sectors such as health and education, efforts were made to achieve substantial expansion and improvement of quality of these services.

Thus, urban domains have got the recognition it deserves in this plan only.

The Tenth Five-Year Plan (2002-2007)

In this plan the priority was given to the development of decentralized urban local bodies (ULBs) structure to cope with the demand for basic

infrastructural facilities needed in cities for their proper growth. The role of the ULBs was very important for the urban development. They should improve their capabilities by equipping themselves to undertake their tasks in resource raising, services provision and poverty alleviation.

As the previous reports emphasized, "the feeling that urban planning ignores the needs of the urban poor", have been dispelled through "effective actions to meet these needs" in this plan. In this connection it was stated that the urban development authorities that acquires the growth of the cities should reserves a major part of such lands to meet the requirements of the weaker sections. An outlay of Rs 29719 crore was allotted to the Ministry of Urban Development and Poverty Alleviation.

This plan also stressed more on the proper availability of infrastructural facilities like roads, sanitation, housing, education, health and recreation for the improvement of quality of life of the people living in the urban areas.

After examining these plans we can easily say that despite having very positive and promising goals, these measures really did not benefited people living in cities, nor helped in improving their social welfare. A main reason for this situation is the uneven and tremendous growth of urban people which have laid an enormous pressure on the present civic amenities in the cities.

In India the urban population during pre-independence time was 13.9 per cent in 1941, which rose to 17.3 per cent in 1951 after the independence. Before independence nearly 15 per cent people were living in towns and now their share has become just double. The reasons in increase urban population may be many, but the main reason has been the migration of rural population to urban areas.

The growth of urban areas in India is related with a shift of a significant proportion of population from villages to urban areas in search of better livelihood. During the period of 1961-71 about 24 million people migrated from rural to urban areas. Every year on an average about 4 million people migrate to cities like Mumbai, Delhi and Kolkata. McGee has described this type of migration in the third world countries as 'pseudo-urbanization', because it is not a consequence of industrialization or other allied causes but is the product of failure to reform the agricultural structure which has resulted in rural poverty. The reality is that because of the sick urban phenomenon in million cities of India unemployment has risen, earnings have gone down which also degraded the quality of life in cities.

However, the pattern of urbanization in India varies, the highest being of Delhi 90 per cent to the lowest of Dadra and Nagar Haveli 8.5 per cent. In other Union Territories the figures vary between 25 and 65 per cent. In case of various states, Mizoram, Goa, Maharashtra, Gujarat, Karnataka and Tamil Nadu it vary between 30 and 45 per cent largely because of industrialization, transport link and trade. On the other hand states like West Bengal, Uttar Pradesh, Rajasthan, Punjab, Madhya Pradesh and Himachal Pradesh vary in between 20 and 30 per cent, and may be of medium level of urbanization. The rest of the areas which show below the average level are below the low urban order. These include Arunachal Pradesh, Assam, Bihar, Orissa, Sikkim and Ttipura, where transport links are weak and industrialization is also very slow.

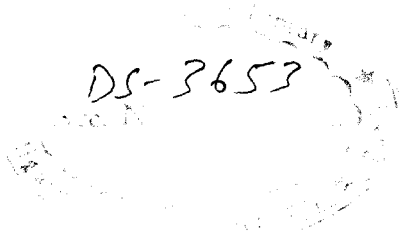
Table 5

Trend of Urbanization in India (1901-2001)

Census year	Total population (in lakhs)	Urban population (in lakhs)	Urbanization rate (%)	Decadal increase (%)
1901	2384.0	259	10.8	
1911	2520.9	254	10.3	0.35
1921	2513.3	281	11.2	8.22
1931	2789.8	335	12.0	19.14
1941	3186.6	441	13.9	31.97
1951	3610.9	624	17.9	41.38
1961	4392.3	789	18.0	26.41
1971	5481.6	1091	19.9	38.28
1981	6833.3	1597	23.2	46.02
1991	8443.2	2171	25.7	36.19
2001	10270.2	2853	27.7	31.39

Source: Census of India, 2001

There is a pressing need to evolve a strategy that addresses the problems of urbanizing areas in terms of stipulation of infrastructural services. Large investment in urban infrastructure like roads, rails, power, sanitation, sewerages and telecommunication are required for accelerating the growth rate of the economy and upliftment of social welfare.



Review of Literature

Urban geography is mainly concerned to deal with different aspects of urban places, the urbanization trends, growth process, patterns, morphology, evolution, urban development and planning.

Urban development means the provision of civic amenities in the cities. It includes both physical and social infrastructural facilities.

Physical infrastructural facilities consist of amenities like roads, transport facilities, housing, sanitation etc.

Social infrastructural facilities consist of amenities like health, education and recreation.

Many urban geographers have examined patterns and trends of urbanization and development in their regional settings at the macro and micro levels.

Social consciousness and will to achieve civic betterment have attracted attention of scholars, geographers and planners

Several scholars from different fields and from other countries including India have contributed number of studies in a wide spectrum of urban development. They have attempted to study different aspects and problems of the cities and suggested measures to improve infrastructural facilities for social welfare of people living in different cities.

Taylor (1946) for the first time had given a fillip to urban studies, urbanization, urban development and urbanism in his work. He has mentioned some important aspects related to towns and cities.

Snails (1953) provided the basic outlines for the study of towns in which he considered significance of growth of urban population, housing conditions and other amenities.

Jones (1966) worked on different cities and towns of the world and mentioned the problems associated with the towns due to the lack of infrastructural facilities and discussed the impact of availability of civic amenities on the social welfare of people living in these cities.

Mayer and Kohn (1967) also contributed much to urban geography. According to them, urban development is very important as far as the development of cities is concerned.

Wilson (1969) based his study on the quality of life in the cities of the United States. He selected some indictors to examine the quality of life in urban areas on the basis of domestic goods, economic status of an individual, equality, democratic problems, education, economic growth, living conditions and health.

Drewnoiski (1970) referred to the welfare generation functions in the cities in his work. According to him local conditions like housing, health and education are the major indicators for maintaining and planning of the quality of life in urban areas. He investigated the quality of life in 18 metropolitan cities of the United States by selecting 14 indicators to study the urban development and quality of life in these cities. The selected indicators include employment, income, housing, health, public order, racial equality, citizen participation, air quality, education and social disintegration. He emphasized more on factors like residential quality, health facilities and recreational facilities for determining the social welfare.

Gilbert (1975) attempted to examine the urban development and planning in countries belonging to developed and less developed parts of the world and concluded that the countries of developed world also suffer from failure in the planning. It is a mere assumption that planning works well in developed countries, if right strategies are taken in developing countries they may prove successful.

Knox (1975) suggested that levels of living in urban areas provides best framework for the development of social life. The level of living in cities with the given geographic constraints constituted by the composition of infrastructural facilities like housing, health, employment, education and security.

Harrison and Gibson (1975) in their work gave an account of the problems which the people face in urban areas due to the lack of urban infrastructural amenities and also suggested certain useful measures to improve the quality of life.

de Souza (1978) has evaluated poverty, ecology and urban development in his work and stressed that the main cause of the urban poverty is the inadequate civic amenities in urban areas, specially lack of housing is one of the main reason for poverty in urban India.

Smith (1979) evaluated the concept of urban development by selecting ten major indicators related to social problems. According to him, income, education and health are the most appropriate indicators to measure the quality of life in the urban areas.

Herbert and Johntson (1980) worked on the significance of availability of infrastructural facilities in the cities with more emphasis on residential structure and urban environment.

Redclift (1992) discussed numerous aspects of development in the urban areas and, suggested that the development should be environmentally rational to improve the quality of life of the people living in these areas.

Hoff and Stenberg (1993) studied Indonesia's Integrated Urban Infrastructure Development Programme (IIUIDP). Basically they examined the role of provincial and local authorities in the implementation of the above programme. However, this programme failed in the provision of infrastructural facilities, but made a considerable contribution in the innovation of the local government.

Fox (1994) stressed that policy makers must examine the levels of urban facilities, when making investments on infrastructure in urban areas. He suggested, that the work on telecommunication, electricity generation, urban transportation and the solid waste disposal should be done on private basis so that the quality of urban life will improve much rapidly.

Pacione (2001) in his study analyzed that although the urban population is growing fastly in third world cities, but the population is less equipped i.e. it lacks in infrastructural facilities to cope up with urbanization. This is the reason that is the urbanization in third world cities is considered to be consummative rather then generative.

Dove (2004) attempted o evaluate urban development in the State of Andhra Pradesh, and suggested how the sustainable changes can improve the life of poors in cities. He suggested, that the municipalities and other local

bodies, many frame the plans to provide civic amenities to the people. He concluded if the local government takes the active steps for the urban development, it can improve the social welfare in the cities.

Swilling (2006) highlighted the importance of economic sustainability issue in city infrastructure plans and investments. He reviewed the South Africans government's plans with reference to investments and infrastructural facilities for improving the socio-economic conditions of the people.

Urban Development in India- A Review of Literature

Singh's pioneer work (1955) marks the beginning of studies in urban geography in India. He studied the pattern of urbanization, urban development and problems related with urban infrastructure in the city of Banaras.

Alam (1965) presented a systematic estimate of the urban landscape of twin cities of Hyderabad and Secanderabad of Andhra Pradesh and discusses about the infrastructural facilities available with them and their impact on the quality of life of people living in these cities.

Misra (1972) worked on the relevance of urban infrastructural facilities in regional planning. He is of the opinion that infrastructural development is a key factor in urban life and development of cities. He suggested various measures, if taken can solve problems related with the quality of life in the urban areas.

Aziz (1973) analysed the radial and zonal influence of Aligarh city to measure the influence in Aligarh on literacy of the population living in surrounding countryside and on the functions of trade and commerce, manufacturing, agriculture and on other services.

Singh (1978) discussed the problems related with the urban development in India. He pointed out, that the local governments of the state (municipal bodies) were incapable to improve conditions of the cities due to the limited resources; as a result, some special purpose bodies need to be created to undertake certain specific urban development programmes like, housing, road improvement, provision of the health and education facilities. According to him, fast growing population of the cities is the major problem in the city development. Government should create small and medium towns around the big cities to check the migration of rural population to urban areas, which had laid enormous pressure on the infrastructural facilities of these areas and also destroyed social welfare of the people living in cities.

Bhattacharya (1979) worked to trace the history of urban development in India from far back years to the urban development by the 20^{th} century. In his work he considered urban development during specific periods and also identified factors that have contributed to the urban development in India.

Rao (1982) discussed the problems associated with the dispersal of urban infrastructure. According to him slums, congestion and lack of other civic amenities are the major cause of the low quality of urban environment which in turn have a bad impact on the social welfare of the people living in the urban areas. He also has suggested some effective urban development policies.

Kopardekar (1986) examined the process of urban growth and the development trends in India and other developing countries within the frame work of the society and the pattern of development policies. In his study he has discussed social, economic, environmental, administrative policies of urban growth.

Verma (1989) analyzed the patterns of urban growth in India. He examined the of urban development with the help of some components of regional development and emphasized how basic civic amenities help in the growth of urbanization and enrichment, of standard of living in urban areas.

Fakhuddin (1991) attempted to study the differences in the quality of life in different residential areas of Lucknow. He selected 28 variables which relate to residential pattern, and 31 variables related to the quality of life. He stressed on the five underlying categories of housing conditions, territorial stress, and civic amenities like, health, education and recreation.

Ahmad (1992) attempted to ascertain the quality of life in the Aligarh city. In her study she found that the Aligarh city lacks in infrastructural facilities. She pointed many problems which the Aligarh city faces like, old and unplanned housing conditions, sewage problems, lead to waterlogging which results in several epidemic diseases.

Mohanty (1993) stressed on the provision of basic services like water supply and sanitation, in three big cities of Delhi, Bhubaneshwar and Raurkela and suggested an urgent need for improvement and increment of financing for basic amenities in the cities. Municipal bodies should be given more powers, so that, they can take active part in the development process.

Ranjan (1997) emphasised that unplanned growth of urban centers is leading much stress on infrastructural facilities like shortage of housing, bad roads, lack in medical and educational facilities, less power generation and many other problems. These problems can be solved only by providing appropriate infrastructural amenities in growing towns and in big cities.

Saxena (1997) worked on Aligarh master plan. She emphasized on the provision of proper basic amenities and facilities are important for the proper development of the city.

Singh and Rehman (1998) analysed the problems of housing and health in the low income household of the Aligarh city and suggested for improvement in infrastructural facilities in the city.

Sharma (1999) tried to underscore the importance of human development in urban society, which in turn leads to economic development. He presented a compared picture of quality of life in different states of India and suggested that there is an urgent need for providing basic infrastructural facilities to the backward states to enhance the pace of development.

Singh (2001) critically analyzed urban development and planning and number of socio-economic problems which mainly arise due to unplanned urban development. He also pointed out, that the medium, small towns and cities are the main sufferers in this process because large number of resources are being pumped into big cities leaving very little for small cities.

Majumdar (2003) worked on to ascertain the regional variations in the availability of infrastructural facilities in different urban regions of India. According to him, first step towards the development should be the equal distribution of infrastructural facilities by implementing integrated regional development programmes in urban areas.

Bhakar and Bhargava (2003) attempted to find out inter-district disparities in infrastructural development in Rajasthan. They selected seven sectoral indices like educational development, health development, transport

development, communication development, banking development, corporate development and power indicators.

Dhaliwal (2004) made an attempt to study major issues of urban development in cities with special reference to infrastructural facilities. His study deals with existing, emerging and future problems faced by local bodies with regard to infrastructural facilities and has also given very effective suggestions for these problems.

Basak (2005) has worked on the housing development in the North Eastern regions of India and observed the acute shortage of housing in this region and suggested that government should provide houses to the people belonging to all income groups for an effective urban development.

Tyagi (2005) has suggested that municipal bodies in the cities use GIS and Remote Sensing techniques for the effective allocation of civic amenities in the cities.

Majumdar (2005) attempted to analyse the status of urban development in the State of Jammu and Kashmir in the context of planning of urban development policy for sustainable development and highlighted inadequate infrastructural facilities which have led a failure in urban development. He stresses that local government should take the initiatives in solving problems like waste disposal, provision of safe drinking water and transport.

Siddhartha and Mukherjee (2005) worked on the cities, their functions and urbanization. Their work mainly deals with the origin of the cities, factors behind their origin and growth.

Rao (2006) has highlighted the issues and challenges in the urban development arena in India. He has stressed on the problem of the extreme urban poverty, deprivation and poor access to urban services.

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Chapter III

URBAN INFRASTRUCTURAL FACILITIES IN ALIGARH CITY

World population continued to increase tremendously during last few years; urban population growth is much higher than rural growth rate. By the year 2005 world's urban population was estimated to over five billion. It is expected that this phenomenon will be more pronounced in the developing countries.

India is popularly known as the "Land of villages" but since the independence the size and the growth of urban population has increased steadily.

Main reason for the tremendous increase of the urban population has been the migration of the rural population to the urban areas in search of better job opportunities.

a) Definition of Infrastructure

The term 'infrastructure' has come to mean all things to all people. It may be defined as comprising the basic services and public utilities essential to the commodity- producing sectors of an economy a distinction is often made between economic and the social components of infrastructure: the core of economic infrastructure comprises transport, communication, supply power and water, and social infrastructure includes housing and medical services. Education and financial institutions, a vital part of infrastructure, are not so easily categorized.

The definition of infrastructure explains that the physical facilities which are available to the people in the form of goods, commodities, water, energy and information. But this definition does not include building or vehicles. However, the basic purpose of infrastructure facilities continues to be the same as it was in prehistoric times to support human life.

The story of infrastructure is the story of civilization. As people began to civilize then they needed facilities which were called infrastructure.

b) Infrastructure in early times

In the initial stages of life human beings were nomadic hunters, gatherers, wandering from place to place in search of food and water. But when people started living in one place to cultivate crops they needed some facilities like habitation, well and a privy. These primitive facilities were the man-made infrastructure. People started farming, weaving, leather work, metal work or trade for this they needed roads to move about and for trade and means of communication with other towns.

As urban areas grew further they needed better transportation, water supply, waste disposal, market places for business and the buildings to support government activities. Human civilization marched a long way through the towns and cities of the ancient and middle ages to today's mega cities. Infrastructure has likewise developed not only in urban areas but also in small towns and rural areas.

c) Current Scenario

According to Mr. Jagmohan, Minister of Urban Development, Government of India, "At present there is no sanitation worth the name for 52

per cent of the urban population. The sewerage system covers only 35 per cent of the population of class IV cities, and 75 per cent of population of class I cities. About 34 per cent of the urban population does not have any arrangement even for the drainage of rainwater around its habitats. Nearly 60 per cent of the Municipal Bodies in India collect less than 40 per cent of the urban waste, which is allowed to decompose and putrefy on the road sides and around the houses and factories. Quite a substantial portion of it goes into the drains, choking them and creating slush and stink all around, besides providing breeding ground for pests, flies and mosquitoes and cockroaches".

The Economic Survey 1999-2000 published by the Government of India warns that, "the widening the gap between the demand and supply of infrastructure continues to raise questions concerning the sustainability of economic growth in future."

d) Impact of urban development on the infrastructural facilities in India

Urban development means the provision of basic services to the people, but urban centers in India presents a grim picture with regards the availability of basic services.

It is widely accepted that insufficiency and imbalance of infrastructural facilities have negative impact on the economic growth and the quality of life of the people in the country.

India Infrastructural Report 1996 is a land mark work and has made recommendation for the infrastructural sector, but still the gap between the availability and the demand for the urban infrastructural and services has increased over the years and the impact of the urban growth on the space, environment and the quality of life has been severe, because the present urban

infrastructural facilities require to support a huge concentration of urban population.

Urban services consist mainly of drinking water, sanitation, sewage system, electricity, urban transport, primary health and education. The process of urbanization has gathered considerable momentum in recent times this has put urban services into the severe strains, especially small and medium cities are facing more acute problems due to the inadequate financial resources.

Several studies have indicated that large segments of urban population do not have access to basic services. Thus urban sector suffers from many deficiencies in infrastructural facilities despite of emphasis in the successive five year plans for orderly development of core infrastructural services.

The gap between accessibility and requirement for urban infrastructural development has widened over the years which has severely affected space, environment and quality of life in urban areas. Large segments of urbanites do not have access to basic services like drinking water, sanitation, basic health and education services.

The data available from the census 2001 indicate that the percentage of urban households having access to safe drinking water has gone up from 81.40 per cent in 1991 to 90 per cent in 2001. The average water supply in large cities is only 5 to 6 hours a day. As per census 2001, nearly 39 per cent of urban households were without access to portable water within their premises. Approximately, 26 per cent of urban household have no access to sanitation with in their premises and are forced to use open spaces. Sewerage system exist in few cities and even these cover them partially. In such cities, only a part of sewage is collected and even less of that is treated. As a result,

discharge of waste leads to pollution, environmental degradation and health risks. Only a part of garbage generated in urban areas is collected, transported and disposed off. The accumulation of garbage along road side in huge quantity has become a common sight in most cities. In many cities, industrial waste, municipal solid waste gets mixed up posing a serious environmental threat. Most of the cities are exposed to air and water pollution, and problems are posed by inadequate solid and liquid waste management.

e) Infrastructural facilities in Aligarh city

In this chapter an attempt has been made to study and analyze the basic infrastructural facilities in five zones of Aligarh city.

Methodology

The study is based on the primary sources of data. Data pertaining to infrastructural facilities like, housing, drainage, sewers, roads, health and educational facilities in the different wards were collected with the help of the extensive city surveys conducted in the city.

The indicators selected for the study related to the quality of life of the people living in different wards of the city like, size of the family, education, profession, income, material status of the households etc.

Detailed informations pertaining to all aspects were selected with the help of a questionnaire by visiting to different wards of the city and by contacting the residents of the respective wards.

The surveys were conducted during the months of January and February 2007. About 8 to 10 households were selected from each of ward out of the total of 54 wards of the city. Stratified random sampling was done

keeping in consideration that the households selected should have good representation from the ward.

These wards were further categorized on the basis of their distance from the city centre as shown in Table 6

Table 6

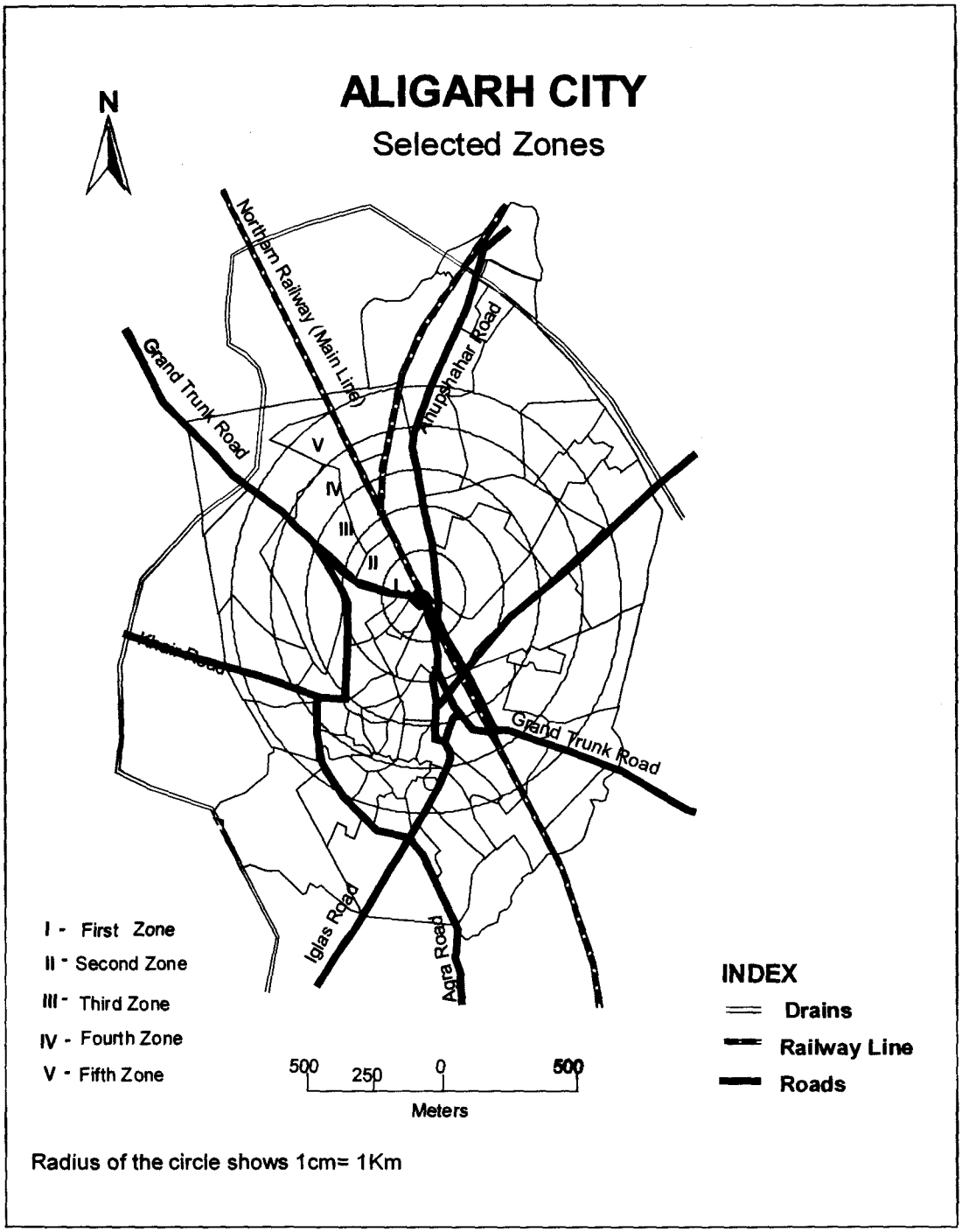
Number of Zones, Wards and Households Selected for Survey in Aligarh City

Zone	Distance from city centre (in Km)	Zone wise number of wards	No of households	Percentage
I zone	0-0.5	3	30	5.8
II zone	0.5-1	5	50	9.8
III zone	1-1.5	12	120	23.5
IV zone	1.5-2	9	90	17.6
V zone	2-2.5	22	220	43.1

i) Types of houses

Type of housing helps in determining the standard of living in a area or ward. It is considered to be the best indicator which gives an idea about the class of people living in that area and also indicates to the level of urban development.

Table 7 indicates that almost all the houses in the first zone are old this is because that first zone comprises the oldest part of the city, some of the families living here traces their history to the medieval period and represent social elites of that area, these houses consist of one room and are very congested.



Source: Office of the Nagar Nigam, Aligarh

Fig. 5

Table 7

Zone wise Types of houses in Aligarh City (2007)

(in percentage)

Zone	Old houses	New houses	Jhuggis	Total
Zone1	100			100
Zone2	46	46	4	100
Zone3	75	21.6	3.3	100
Zone4	74.4	25.5		100
Zone5	46	40.9	13.1	100

Source: Based on the field survey (2007)

Nearly 46 per cent old and 46 per cent new houses and 4 per cent Jhuggis are seen in the second zone, new houses are seen in the eastern side of the railway line in the wards of Janakpuri, Lekh Raj Nagar etc. mostly high business class families reside in this zone so they have big and spacious houses.

In the third zone about 75 per cent of houses are old because this zone also comprises a larger part of the old city where mostly lower income groups are found, they live here due to the nearness to their workplace, and they are mostly laborers working in factories and can't afford expenses on daily up and down so they prefer to live near to their workplace. Only Dodhpur - ward No. 30 has new houses because it is located in newly developed part of the city and here mostly service class people and professionals live.

In the fourth zone service class men, business men and professionals live but mostly it comprises the old part of the city having old houses. About 74.4 per cent houses are old and 25.5 per cent new houses which are in the new

part Badar Bagh and Begpur where mostly university employees and government staff live.

Fifth zone has a high percentage of new houses about 48.9 per cent as compared to the other four zones because it spreads over the university area, which include the Medical college and Sir Syed Nagar and in these wards mainly teachers, engineers and doctors live, but this zone also has slums and the people living in these slums usually work as servants in the houses of high income groups. Beside this about 46 per cent old houses are seen in the fringe areas like Nagla Kalar, Beema Nagar, Shahjamal very little development is observed in these wards mostly very low income groups live here.

ii) Open spaces

People in urban areas more often remain engaged in the works and live in small apartments, therefore they need open spaces like parks and playground where they can walk and get fresh air, these places are also important for the mental and physical health of the children

Table 8

Distribution of Open Spaces in Different Zones of Aligarh City, 2007

(in percentage)

Zone	Parks	Vacant lands	None	Total
Zone 1	-	-	100	100
Zone 2	-	8	92	100
Zone3	1.6	20	78.3	100
Zone4	-	4.4	95.5	100
Zone5	0.45	42.7	56.8	100

Source: Based on the field survey (2007)

Type of Houses and Open Spaces in Different Zones of the Aligarh City, 2007

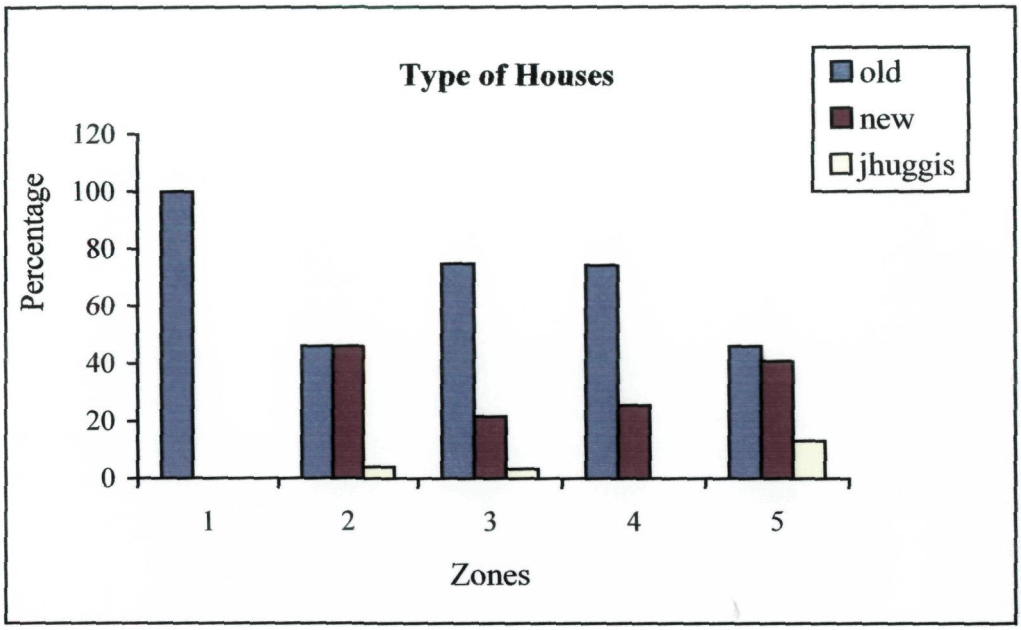


Fig. 6

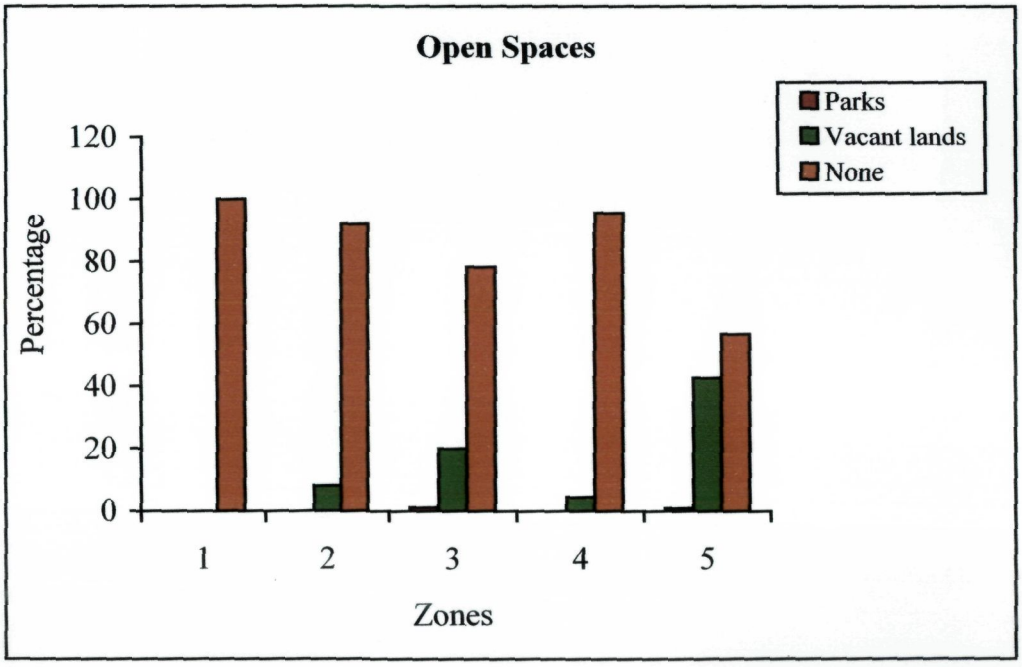


Fig. 7

Table 8 show that Aligarh city lacks in public spaces like parks and playground. Only 5 or 6 parks are in the city, out of which only one is located in the university area which is very clean and in a good condition and the remaining parks look not as park but a garbage dumping grounds.

In the first zone, there is no open space neither in the form of parks nor as the vacant land because this is the oldest part of the city and the biggest commercial centre that is the reason why almost all space is occupied by the shops and houses.

Maximum open spaces are found in the fifth zone about 42.7 per cent because this zone includes wards lying in the fringe areas, where population concentration is low as compared to the other zones due to the lack of basic civic amenities. About 56 per cent land is occupied by the university area and Medical College.

iii) Religion wise Types of Housing

Table 9

Distribution of Sampled Households According to the Religion in the Aligarh City (2007)

(percentage)

Zone	Muslims	Hindus	Christians	Total
Zone1	33.3	66.6		100
Zone2	36	64		100
Zone3	20	74.1	5.8	100
Zone4	68.8	31.1		100
Zone5	50.4	49.5		100

Source: Based on the field survey (2007)

Table 9 shows that, in first zone about 66.6 per cent hindu population live, whereas 33.3 per cent are muslims. They are living here for quite a long time.

In the second zone, too, 64 per cent hindus and 36 per cent muslims live, muslim concentration is found mainly in the new parts of Lekh Raj Nagar and in old part Sarai Hakim and Sarai Nabab areas.

In the third zone 74 per cent hindus live, whereas 20 per cent of muslims and 5.8 per cent of Christians are also found mainly in the ward No. 30. Muslims are found mainly in wards of Tan Tan Para and Dodhpur, otherwise this zone is dominated mainly by hindus.

In the fourth zone about 68.8 per cent muslims and 31.1 per cent hindus were observed and the same was observed in the fifth zone having nearly 50.4 per cent muslims and 49.5 per cent hindus. These zones are dominated by muslims because most of those living here are employed in the Aligarh Muslim University and their children get education here.

iv) Roads

Roads are the most important and a common mode of transportation because of its reliability, efficiency and mainly because it needs comparatively less expenditure on laying of than its alternatives. Road network therefore influences the urban development of an area. Generally, people prefer to live near their work place that is the reason why the Indian cities are termed as pedestrian cities. As observed by Misra (1986) that the spatial expansion of the India cities is more pronounced along the transport arteries and along roads, these roads change the pattern of growth from circular to linear.

Aligarh city is well connected with other parts of the country by six main roads:

1) Grand Trunk Road: This is one the most important road built by Sher Shah Suri and it connects Aligarh to Delhi and Kolkata. Most of the commercial goods are transported through this road and it passes the city from northwest to east direction.

2) Agra Road: This road connects the city to the Agra city and further extend to Madhya Pradesh and it enters the city from south and help in the movement of agricultural commodities, machineries and implements.

3) Mathura Road: The city of Aligarh is connected to Muthura city and it further extends to Rajasthan through this road. It passes the city through the south and used by villagers to bring agricultural commodities.

4) Atrauli Road: It connects the city to the Atruali town and enters the city from the northeast and enables those who bring construction material.

5) Anup Shahr Road: This road passes through Aligarh Muslim University and joins the road leading to Nuclear Power Plant at Narora. It enters the city from the north.

6) Khair Road: This road connects the Khair from the east side.

Table 10

Types of Roads in Different Zones of the Aligarh City (2007)

(in percentage)

Zone	Metalled roads	Unmetalled roads	Total
Zone 1	100		100
Zone2	100		100
Zone3	81.6	18.3	100
Zone4	94.4	5.5	100
Zone5	79.0	20.9	100

Source: Based on the field survey (2007)

Table 11

Types of Roads According to the Material Used in the construction of Roads in Aligarh city, 2007

(in percentage)

Zone	Cemented	Mix sphelt	Kharanja	Total
Zone1	80	20		100
Zone2	100			100
Zone3	71.6		28.3	100
Zone4	88.8		11.1	100
Zone5	75	6.8	18.1	100

Source: Based on the field survey (2007).

Type of Roads in Different Zones of the Aligarh City, 2007

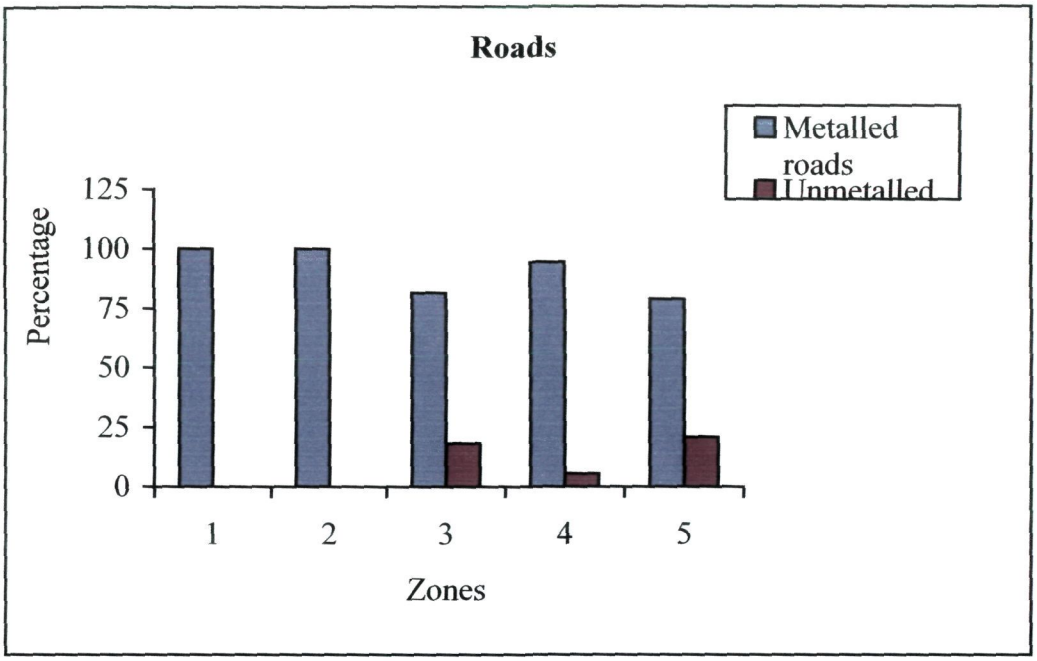


Fig. 8

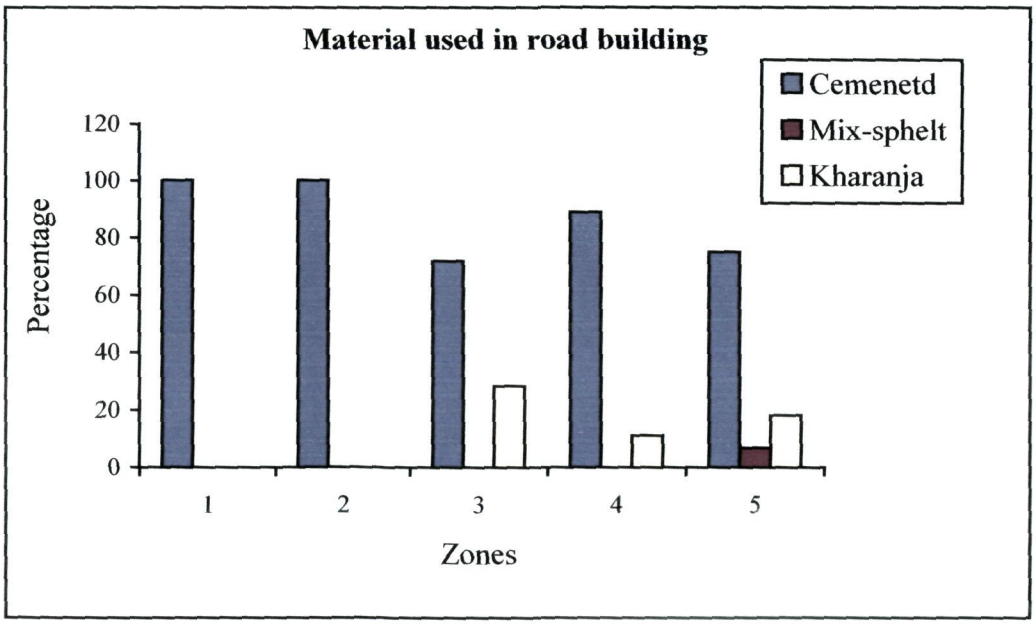


Fig. 9

Tables 10 and 11 show that all the roads in first zone are metalled, out of which 80 per cent are cemented and 20 per cent of mix sphelt. The main reason for the cemented roads in this zone is its central location.

In the third zone, 71.6 per cent of roads are metalled out of which 71.1 per cent are cemented, 28.6 are kharanja and 18.3 per cent are unmetalled because this zone lies at a distance of one and a half kilometer from the center. Unmetalled roads are found in localities of wards like Nagla Masani, Fire Brigade and Kishore Nagar.

In the fourth zone 94.4 per cent roads are metalled and 5.5 per cent roads are unmetalled, out of these 88.8 per cent are cemented 11.1 per cent are kharanja. Unmetalled roads exists in Badar Bagh only, where as the remaining eight wards lie in old city and all most all the roads in the inner sides of the ward are cemented or kharanja.

Fifth zone has 70.9 per cent metalled roads, 75 per cent roads cemented and 6.5 per cent are of mix sphelt and 18.1 per cent are kharanja. In this zone 21.1 per cent of the roads are unmetalled; they are confined mainly in the fringe areas.

It is evident from the above discussion, that the condition and the quality of roads decrease as the distance increases from the centre of the city.

v) Sullage and Drainage system

Safe drinking water and good sanitation are important measures for the improvement in environmental problems and the quality of life of people in the cities. Sanitation does not mean only to clean sewages but to protect those sources of water which supports the sustainable development.

Condition of drainage in Aligarh city is pathetic, but some kind improvement is seen in drainage system during the past five years especially in the old city.

Table 12

Drainage in Different Zones of Aligarh City (2007)

(in percentage)

Zone	Open drains	Not exists	Total
Zone 1	100		100
Zone2	100		100
Zone3	97.5	2.5	100
Zone4	92.2	7.7	100
Zone5	81.8	18.1	100

Source: Based on the field survey (2007)

Table 13

Existence of Water Logging and Garbage in Drains in Aligarh City (2007)

(in percentage)

Zone	Water logging	No water logging	Garbage in drains	No garbage	Total
Zone1	33.3	66.6	60	40	100
Zone2	32	68	26	74	100
Zone3	43.3	56.6	45	55	100
Zone4	44.4	55.5	44.4	55.5	100
Zone5	52.7	47.2	52.7	47.2	100

Source: Based on the field survey (2007)

Drainage facilities in different zones of the Aligarh city, 2007

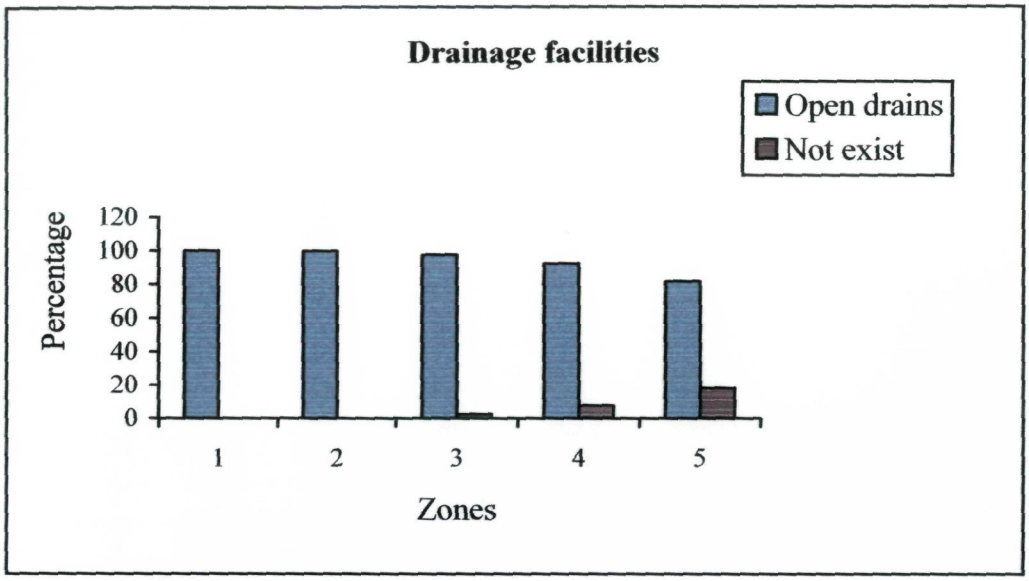


Fig. 10

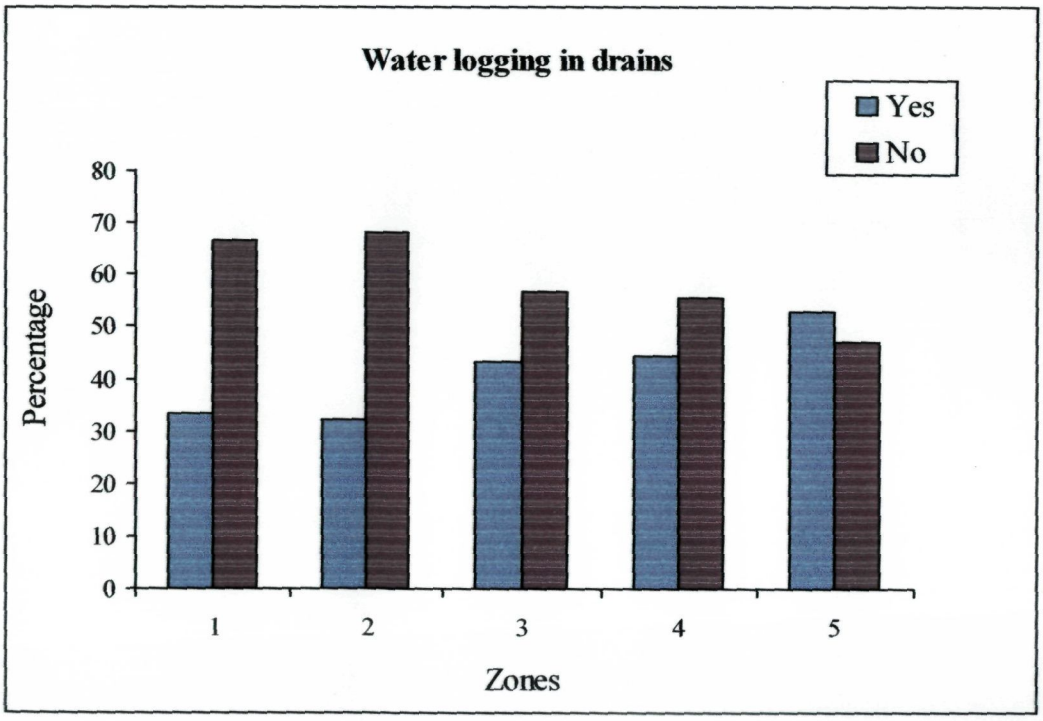


Fig. 11

Tables 12 and 13 shows that first zone is characterized with open drains. Though in this zone drains are mostly deep and wide, in 33.3 per cent of the drains water logging conditions are visible specifically in rainy season. Huge amount of garbage is seen in the drains (about 60 per cent) of the drains are filled with it.

In second zone, too, all the drains are open. Condition of this zone is some how better than the first zone because some of the posh colonies are located in different wards of this zone like Janakpuri and Ashok Nagar mostly high income group people reside here. About 32.2 per cent of the drains shows water logging and 26 per cent drains have garbage in them.

In the third zone, 97.5 per cent open drains are seen. 43.3 per cent of the drains shows water logging and 45 per cent of the drains are filled with garbage. Condition of drains in this zone is worse; mostly drains are narrow and made up of mud and bricks. In some wards namely, Nagla Masani, Kishore Nagar and Fire Brigade area are devoid of drains.

In the fourth zone, about 92.2 per cent open drains are seen about 44.4 per cent of the drains remains water logged and filled with garbage. This zone also has very bad drainage system. In Badar Bagh and Sarai Pakki most of the roads are filled with water which is accumulated in the pot holes, which cause many diseases.

In the fifth zone, 81.1 per cent open drains are seen. This zone has an acute problem of drainage as compared to the other zones. All most half of the wards of this zone have no proper drains and if present, they are in very bad condition, even in posh colonies of Sir Syed Nagar and Zohra Bagh drainage

system is very bad. A good drainage system is visible only in University area, Medical College and Kishanpur where high income group people reside.

Areas near the city' center have good drainage system and as we go away from the center condition of drains is not properly maintained. In the outer zones only 40-50 per cent drains exist.

vi) Solid waste management

Table 14

Zone wise Disposal of Night Soil in Aligarh City (2007)

(in percentage)

Zone	Drain	Septic tanks	Total
Zone1	83	16	100
Zone2	38	62	100
Zone3	77.5	22.5	100
Zone4	68.8	31.3	100
Zone5	58.6	41.3	100

Source: Based on the field survey (2007)

Table 14 reveals that, 83 per cent of the sampled house holds dispose of waste into the cemented drains and 16 per cent have septic tanks in houses in the first zone because in this zone houses are old and small therefore, they do not have septic tanks for waste disposal.

In the second zone 38 per cent households use drain for the waste disposal, while 62 per cent have septic tanks. This zone has a high percentage of households having septic tanks because many high income group live here, they have their own big and new houses with a good system for waste disposal.

Open drains are the only means of waste disposal of the 77.5 per cent households in the third zone and 68.8 per cent households in the fourth zone, whereas only 22.5 per cent households in the third zone and 31.1 per cent households in the fourth zone have septic tanks. The reason for the high percentage of people using drains for their waste disposal as they belong to very low income groups in these zones, they usually live in one room houses.

In the fifth zone about 41.3 per cent of the sampled households have septic tanks. These houses are found only in the posh areas of this zone University campus, Sir Syed Nagar and Kishanpur. Whereas 58.1 per cent house -holds in this zone use drains for the disposal of waste and in many fringe areas even drains do not exist so people dump waste around houses.

It is evident from above discussion that only high income groups in the Aligarh city have septic tanks in their houses for the waste disposal.

vii) General environment

Table 15

Disposal of Garbage in Different Zones of Aligarh City, 2007

(in percentage)

Zone	Not seen	Along road side	Open spaces	Total
Zone 1		100		100
Zone 2	40	56	4	100
Zone3		85.8	14.1	100
Zone4	11.1	84.4	4.4	100
Zone5	13.1	63.1	23.6	100

Source: Based on the field survey (2007)

Solid Waste and Garbage Disposal in Different Zones of the Aligarh City, 2007

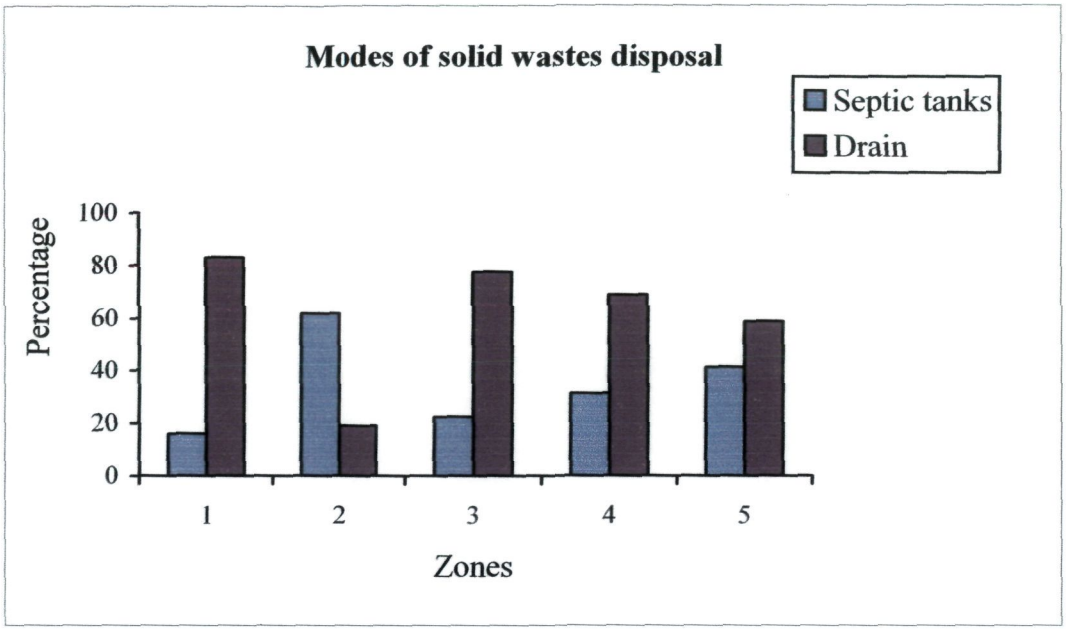


Fig. 12

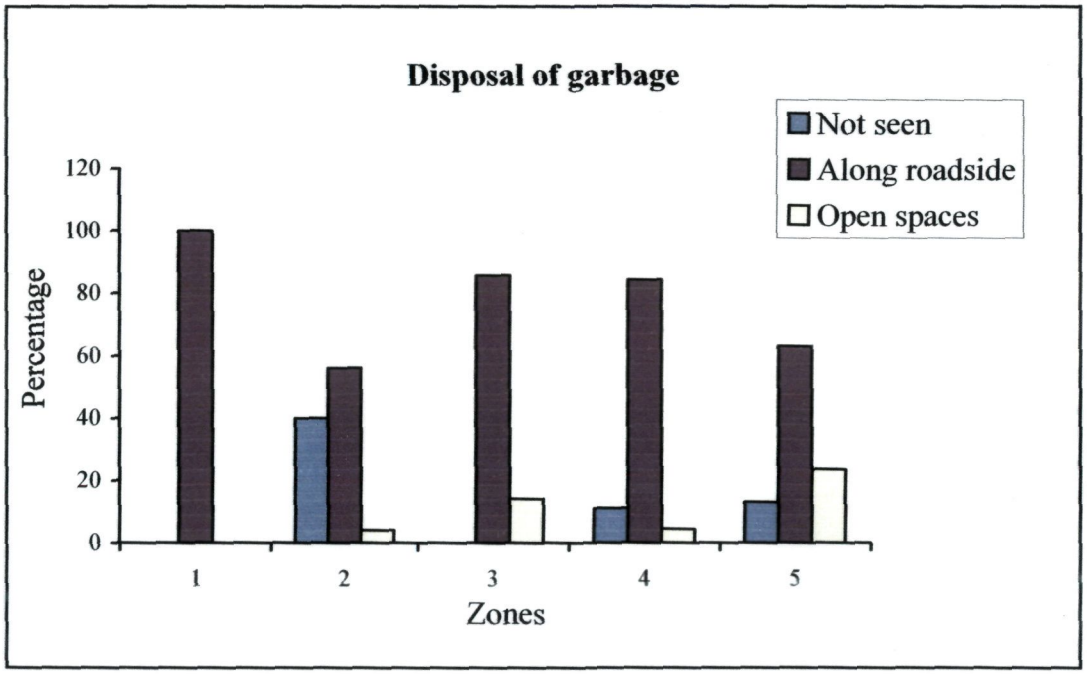


Fig. 13

Table 15 shows the spread of garbage in different zones in Aligarh city. Garbage spread is seen along the road side almost in every ward, but it is clearly visible in old part than new part of the city. In the first zone, the garbage is seen spread along the road sides. In the second zone, 56 per cent, third zone, 85.5 per cent, in the fourth zone 84.4 per cent and in the fifth zone, 63.1 per cent.

In the second zone, third zone, fourth zone and fifth zones garbage is also seen in the open spaces. About 4 per cent in the second zone, 14.1 per cent in the third zone, 4.4 per cent in the fourth zone and 23.1 per cent in the fifth zone. Out of these zones high percentage of garbage is seen in open spaces in the fifth zone, because this zone contain more open spaces than other zones. But in the wards of the other zones, garbage confines mostly along the road side because these areas do not have open spaces and mostly lower and middle class income group people live there. They do not care to dispose of garbage in the official dumps placed nearby, beside these factors irregularity in garbage collection by municipality staff is an important reason for dumping and spread of garbage along road side and in open spaces.

In some wards of the second, third, fourth and fifth zones garbage is not seen spread along the road side nor in the open spaces, these wards are where high income group people resides and take care to dispose the garbage in official dumps and also pay extra money to keep their surrounding areas more clean. These wards include Janakpuri, Ashok Nagar, University campus, Medical College, and Kela Nagar.

viii) Health facilities

General health is an important indicator which determines the social status of the people of any country. World Health Organization (WHO) defines

health as a "state of complete physical, mental and social well being and not merely absence of disease and infirmity". In 1978 WHO declared "health for all by 2000 A.D". It was recommended that health of the people has to be looked after by the Primary Health Centers (PHC) and the PHCs should be easily accessible to the people.

Table 16

Distribution of Health Facilities in different zones of Aligarh City, 2007

(in percentage)

Zone	Government hospitals	Private clinics	Nursing homes	Medical institutes
Zone1	4	85	11	
Zone2		100		
Zone3	1.4	92.5	6	
Zone4		93.7	6.2	
Zone5	0.68	86.3	12.2	0.68

Source: Based on the field survey (2007)

Table 17

Zone wise Accessibility to Medical Facilities in Aligarh City (2007)

(in percentage)

Zones	Accessible	Inaccessible
Zone1	80	20
Zone2	13	86
Zone3	49.1	50.8
Zone4	42.2	57.7
Zone5	60.4	39.5

Source: Based on the field survey (2007)

Tables 16 and 17 show accessibility of health facilities in different zones.

It is evident from tables, that about 85 per cent of private clinics, 11 per cent of nursing homes and only 4 per cent government hospitals provide health care facilities in the first zone. Most of the private clinics in this zone have unqualified doctors, whereas government hospitals are devoid of many health care facilities. They do not have sufficient beds for patients, as a result most of them use unclean floors and wait for their turn to come. Patients report that doctors in these hospitals do not take care. Therefore, people prefer to go to the private clinics for taking treatment.

In the second zone, only private clinics have qualified doctors because of the high income groups, out of these many of them are doctors. People residing in second zone have easy accessibility to clinics.

In the third zone, and the fourth zone, conditions are more or less similar to that of first and second zones. About 92.5 per cent and 93.7 per cent private clinics are working respectively and more than half of them are unqualified doctors. As here mostly low class income groups of labourers and factory workers so they prefer to go to these clinics. Besides this 6 per cent and 6.2 per cent of nursing homes are located in these zones.

Fifth zone presents a very unbalanced situation, on one hand this zone shows good medical facilities 86.3 per cent of private clinics in its vicinity and about 12.2 per cent nursing homes. Private clinics and nursing homes located here are considered as one of the best in the Aligarh city. They are mostly located along the Ramghat road. These clinics are equipped with qualified doctors and with latest medical facilities and only high class people can go for

treatment. This zone also has J.N. Medical College of AMU, where a large number of people go for taking treatment. On the other hand many people living in fringe areas of this zone do not have even private clinics in wards like Beema Nagar, Indra Gandhi Khair road etc where mostly very low income group people live. They have to travel more than 1 Km and even more to reach for taking any medical treatment.

ix) Educational facilities

Education at the present day context is perhaps the single most important parameters to an individual to improve his/her personality, endowment, and help in building capability.

Education is not only a mean to enhance human capital productivity and hence, the compensation of labour, but it is equally important in enabling the process of acquisition, assimilation, and communication of information and knowledge, all of which augment person's quality of life.

Table 18

Distribution of Educational Facilities in Different Zones of Aligarh City, 2007

(in percentage)

Zones	Primary schools	Secondary schools	Senior secondary schools	College	University
Zone1	100				
Zone2	88	7	4		
Zone3	84.6	11.5	3.8		
Zone4	75	18.8	2	12	
Zone5	71	12.2	2.8	4.7	10

Source: Based on the field survey (2007)

Health and Education Facilities in Different Zones of the Aligarh City, 2007

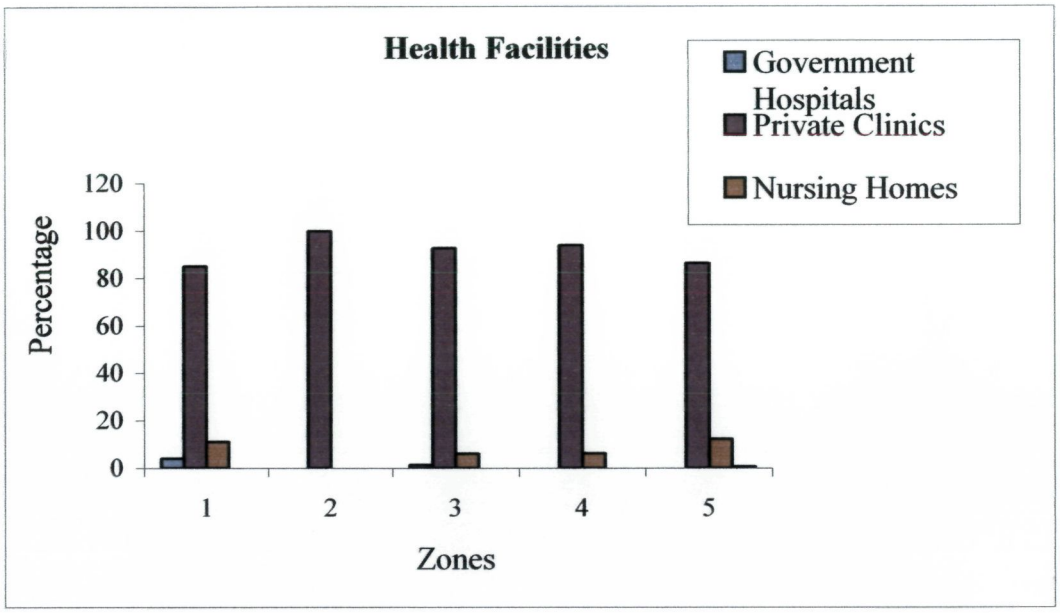


Fig. 14

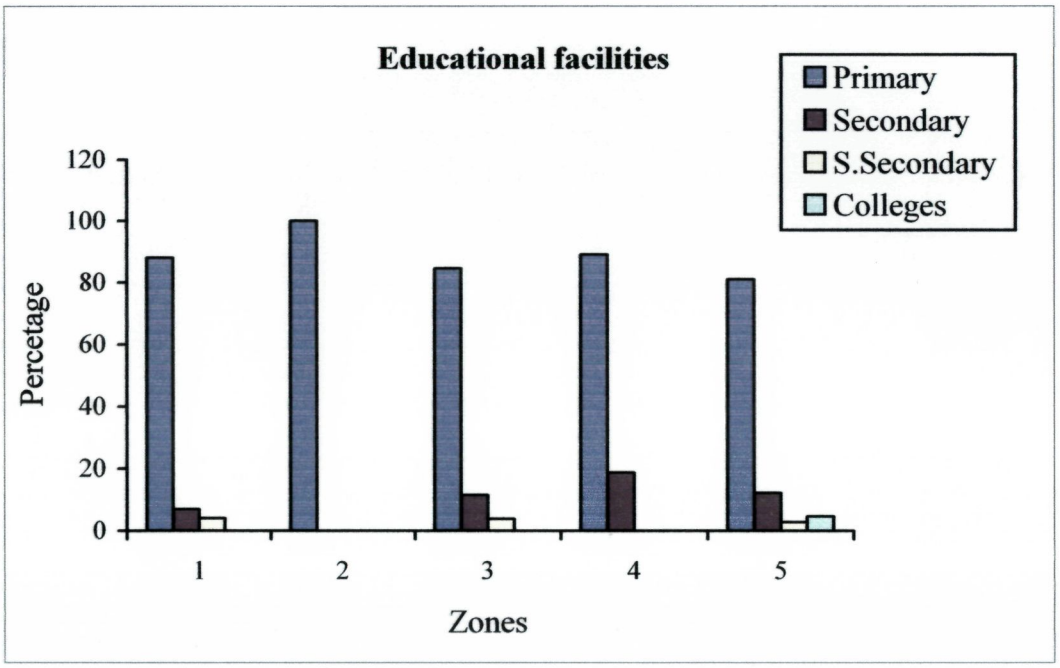


Fig. 15

Though Aligarh is known for the world famous seat of education Aligarh Muslim University (AMU) but still literacy rate is very low.

Table 18 reveals that the first zone has only primary schools, most of them are private and they do not have qualified teachers and other amenities which are needed to the students. This zone has only one or two government schools with little facilities.

In the second zone, the situation is some what better, having 88 per cent primary schools, 7 per cent and 4 per cent secondary and senior secondary schools respectively. This zone is characterized with the presence of very good English medium schools.

In the third zone, there are 84.6 per cent primary, 11.5 per cent secondary and 3.8 per cent senior secondary schools. Few of them are government aided, and most of them are private which have very low education standard. But people living in this zone send their children to the schools because most of the parents are uneducated and poor, therefore they could not afford charges of education of good schools.

About 75 per cent primary schools, 18.8 per cent secondary, 2 per cent senior secondary and 12 per cent government colleges are found in the fourth zone. Education facilities in this zone are better than the third zone because a large segment of service men lives here.

Educational facilities in the fifth zone are much better than the previous four zones. This zone has one of the best convent schools of Aligarh. Aligarh Muslim University is also located here; this university has four secondary schools (two for girls and two for boys) with two senior secondary schools and many departments of different subjects. But as the population of

the city continues to increase even these facilities fall short so many of the students do not succeed in getting admission.

The above outlined infrastructural facilities reveal that these facilities are properly available in the zones which are nearer to the center of the city. In zone first and second zone good roads, and proper drains serve the zones but as one moves away from the center to the third and fourth zones infrastructural facilities are not sufficient enough and in some poor areas of fifth zone these facilities are absolutely missing. There exists a negative correlation between the distance and availability of infrastructural facilities. These facilities become thin as one moves away from the center of the city.

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Chapter IV

INDICATORS OF SOCIAL WELL-BEING IN ALIGARH CITY

In recent years there has seen a marked shift of public attention from economic affairs towards the social state of the nation. One can not be in doubt that social problems are now a matter of great concern. So the concept of social well-being comes into light and emphasizes its importance

The concept of social well-being in defining urban development started during 1970's. It came into existence due to the inadequacy of concepts like economic growth and development. The later concepts are highly biased towards per capita income. The quality of life is a holistic concept which includes economic, social, demographic and cultural dimensions of human life. A variety of life aspects such as housing, education, profession, income and material status are incorporated in order to measure the quality of life. According to Pati and Mahaparta (1987), " quality of life may be defined as satisfaction of human needs, the organic needs, the special needs and the individual needs for self realization".

The inquiry starts with the assumption that there is a dimension of human existence called social well-being, and the people living on a specific area can be easily differentiated from those living in other areas with respect to its dimension and various other factors.

According to Bossard (1927), "it relates to income in its broadest sense, physical health and state of mind- three basic conditions of individual well-being recognized in the literature for many years".

So it would be better if social well-being considered as the condition of prosperity, happiness, and good health of the people of the society. It may include many other aspects related to life, welfare of society and level of satisfaction. Thus the phenomena of social well-being include both the subjective and objective realities of human life.

The study of quality of life is the outcome of social relevance paradigm. The United Nations Development Programme (UNDP) has used the term "Human Development" in place of quality of life. Human development is a process of enlarging the choice for all the people not just for one part of society. The Progress of Nations Report (1996) published by UNICEF recorded the important innovations made by many countries in health, nutrition and education.

Indicators of social well-being

According to one definition of the indicators, "a social indicator may be defined as the statistic or direct normative interest which facilitates, concise, comprehensive balanced judgment about the condition of major aspects of the society".

Different scholars have defined the social well-being with different interpretations. The ultimate aim is to prepare a better frame or provide certain solutions for the betterment of the human beings.

Social well-being depends not only on the income, but to the people who live in houses and society, and their access to basic infrastructure services-education, occupation etc. Therefore following indictors were selected for the undertaking the present study.

- Family status
- Size of the family.
- Type of the family.
- Educational status.
- Profession.
- Income.
- Material status.

Table 19

Number of Persons Living with a Sampled Household in Aligarh City, 2007

(In percentage)

Zone	1-4	5-8	9-12	>12	Total
Zone1	33.3	43.3	23.3		100
Zone2	32	46	14	8	100
Zone3	32.5	42.5	19	6	100
Zone4	30	50	20		100
Zone5	29.5	47.2	17.2	6.1	100

Source: Based on the field survey (2007)

Table 19 shows the distribution of sampled households and the number of persons living in a house. It was observed that, in first zone, 23.3 per cent, in second zone, 14 per cent in third zone, 19 per cent, in fourth zone, 20 per cent and in fifth zone, 17.2 per cent households 9-12 persons live in one house. These people mainly belongs to very low income group. Only in the second zone, 8 per cent, third zone, 6 per cent and fifth zone 6.1 per cent households have more than 12 persons to live in a house. These houses also belong to that

of the low income group, and there are very few households in number with high income groups, who have more then 15 persons in a house.

Table also shows that in the first zone, 43.3 per cent, second zone, 46 per cent, third zone, 42.5 per cent, fourth zone 50 per cent and fifth zone 47.2 per cent households 5-8 persons live in a house. These households belonged to either income group of low, medium and high.

In the first zone, 33.3 per cent, second zone, 32 per cent, third zone, 32.5 per cent, fourth zone 30 per cent and 29.5 per cent households 1-4 persons live who belong to very low income group. As they have only one room house so the size of family is too small or to high income groups who prefer a small family.

Table 20

Sampled Households According to Type of Family in Aligarh City, 2007

(in percentage)

Zone	Joint family	Nucleated family
Zone1	40	60
Zone2	22	72
Zone3	35	65
Zone4	32.2	67.7
Zone5	34	66

Source: Based on the field survey (2007)

Housing Status of the Sampled Households in Aligarh city, 2007

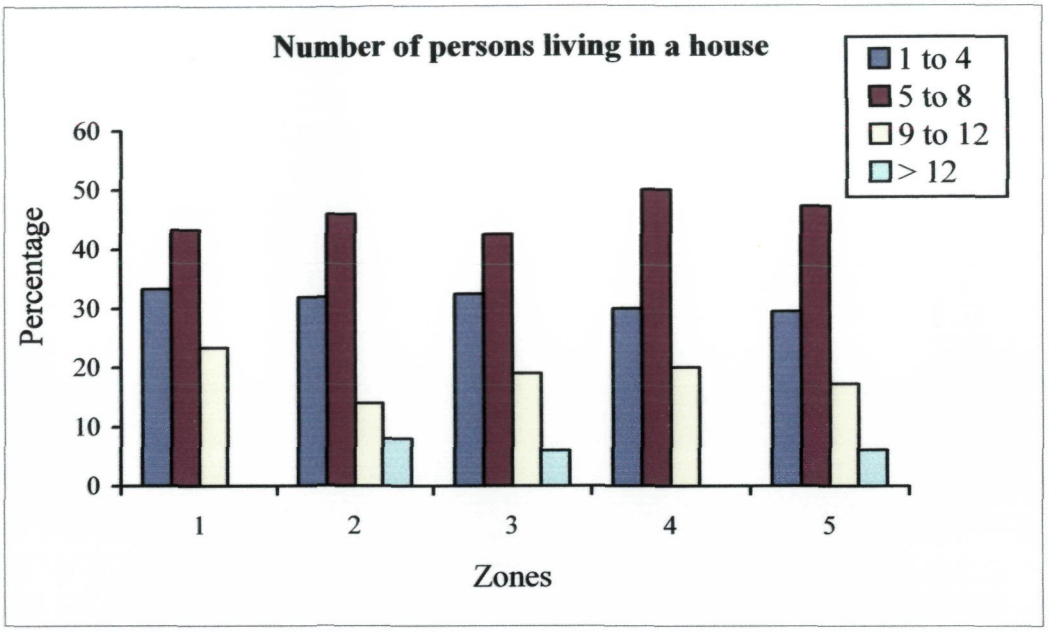


Fig. 16

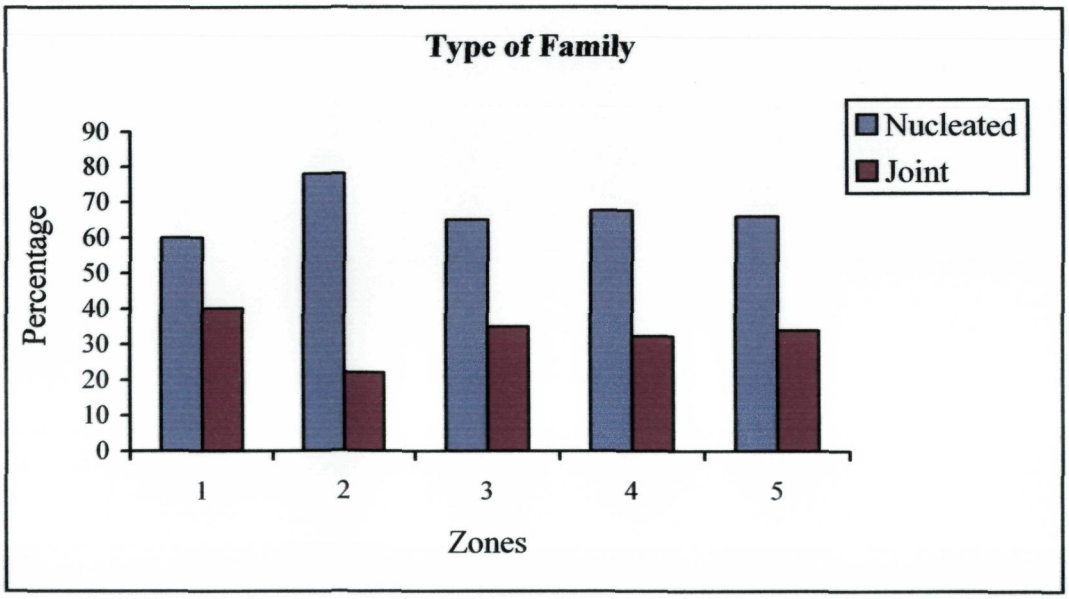


Fig. 17

Table 20 shows the number of sampled households according to type of family. It was observed, that about 60 per cent families in the first zone, 72 per cent in the second zone, 65 per cent in third zone, 67.7 per cent in fourth zone, and 66 per cent in the fifth zone are nucleated and rests are joint families.

The percentage of nucleated families is far acceding than joint families. Joint families were found only in some parts of the old city, whereas in new localities people prefer to live with nucleated families.

Table 21

Sampled Households According to the Status of House in Aligarh City, 2007

(in percentage)

Zone	Own	Rented
Zone1	70	30
Zone2	86	14
Zone3	85.8	14.2
Zone4	71.1	28.8
Zone5	81	19

Source: Based on the field survey (2007)

Table 21 shows the sampled households according to the status of the house. It is observed that, nearly 70 per cent in the first zone, 86 per cent in the second zone, 85 per cent in the third zone, 71.1 per cent in the fourth zone and 81 per cent in the fifth zone live in their own houses. In the first zone, people have one room and they are very. They prefer to live in them because they do not have other alternatives. The situation is same as regard to the status of houses in other the zones.

Many high income group people living in old or new parts have big houses. Even than most of them now prefer to build their houses in the fringe areas because they are free from pollution and the costs of land are low.

In fourth and fifth zones 28.8 per cent and 19 per cent residents live mostly in government houses and also in private rented houses. They are mostly students and teachers who have come from out side to persue their studies or jobs in the city.

Table 22

Sampled Households According to the Educational Status in Aligarh city, 2007

(in percentage)

Zone	Educational status		Distribution of educated persons					
	Educated	Unedu cated	Primary	Middle	High school	Inter	Graduate	P.G
Zone1	74.8	25.1	47.1	17.8	22.8	4.2	6.4	1.4
Zone2	77	23	35	10	14.3	12.4	22	6
Zone3	70.2	29.7	44.5	11.1	16.20	7	16	4.8
Zones4	68	32	40.1	13.6	20	7.6	15.8	2.8
Zone5	63	37	46	14.4	13.7	5.7	14.6	5.3

Source: Based on the field survey (2007)

Table 22 shows sampled households according to the educational status. About 74.8 per cent are educated in the first zone, 77 per cent in the second zone, 70.2 per cent in the third zone. Among them 47.1 per cent are in the first zone, 35 per cent in the second and in the third zone 44.5 per cent are primary educated. This is because of their poor economic conditions after attaining classes in primary level they began to do work to support their family. Those who attended classes up to high school are 22.8 per cent in the

Housing and Educational Status of the Sampled Households in Aligarh City, 2007

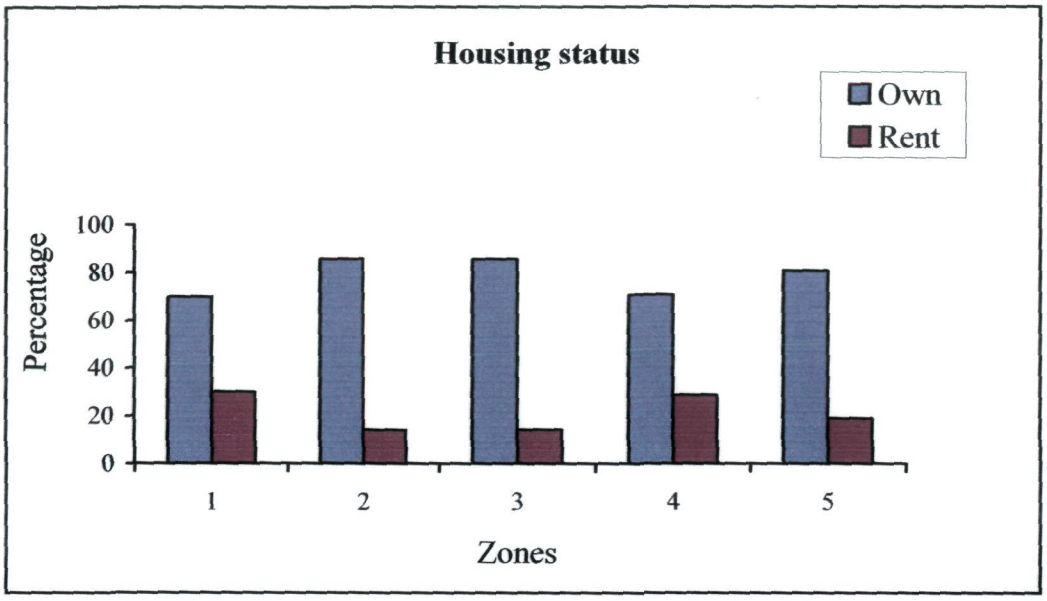


Fig. 18

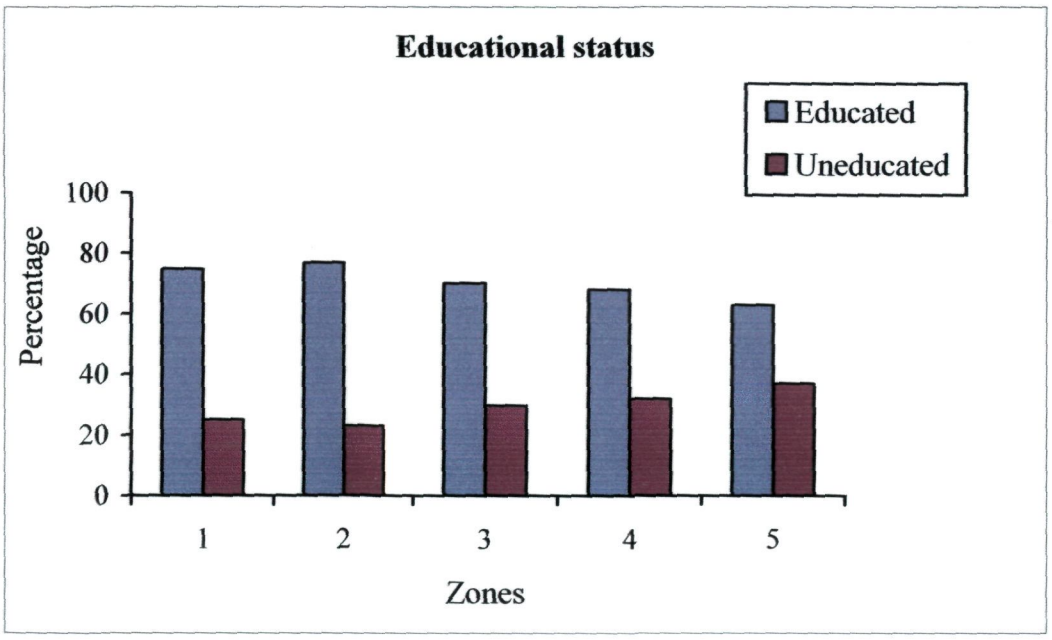


Fig. 19

Graduates and post graduates constitute 22 per cent and 6 per cent in the second zone as they belong to very high income groups.

In the fourth zone, 32 per cent and in fifth zone, 37 per cent are uneducated and 68 per cent and 63 per cent are educated, 40.1 per cent in the fourth zone respectively, and 46 per cent in the fifth zone are primary educated. About 15.8 per cent are graduates in the fourth zone and 14.6 in the fifth zone.

The highest number of illiterates are confined in the fifth zone, the University campus, in Sir Syed Nagar and Medical College, where more then 80 per cent are educated and as many as are professors, doctors and engineers. But in fringe areas literacy rate is almost zero per cent as these areas are occupied by the low income groups.

Table 23

Sampled Households according to the Type of Occupation in the Aligarh city, 2007

(in percentage)

Zone	Professionals	Sale men	Service men	Business men	Others
Zone1	3.3	23.3	16.6	33.3	23.3
Zone2	20	14	14	48	4
Zone3	7.5	11.6	26.6	41	13.3
Zone4	11.2	14.4	28.8	34.4	11.2
Zone5	17.2	8.8	21.9	24.0	28.1

Source: Based on the field survey (2007)

Table 23 shows sampled household according to the profession. It is evident from the table that in the first zone 33.3 per cent, in second zone 48 per cent, in third zone 41 per cent, in fourth zone 34.4 per cent and in fifth zone 24 per cent persons carry their own business, mainly of hardware, on medium and small scale. Some small scale industries are largely confined to old parts of the city.

The service class people constitute 16.6 per cent in the first zone, 14 in second, 26.6 per cent in third zone, 28.8 per cent in the fourth zone and 21.9 per cent in the fifth zone, most of them are employed in the University. Some 23.3 per cent in the first zone, and 28.1 per cent in the fifth zone carry other works, and many of them are labourers and rickshaw pullers.

The professional people like teachers, doctors and engineers constitute only 3.3 per cent in the first zone, 20 per cent in second zone, 7.5 in third zone, 11.2 per cent in fourth zone and 17.2 in the fifth zone. Generally they are found with high percentage in the second and fifth zones.

Table 24

Sampled Households according to Monthly Income (in Rs) in the Aligarh City, 2007

(in percentage)

Zone	1500-5000	5000-10000	10000-15000	15000-20000	>20000
Zone1	36.6	30	30	3.3	
Zone2	20	10	10	30	30
Zone3	31.7	27.5	20	7.5	13.3
Zone4	36.6	23.4	26.6	6.7	6.7
Zone5	41.8	14	18.6	12.8	12.8

Source: Based on the field survey (2007)

Profession and Income wise Distribution of the Sampled Households in Aligarh City, 2007

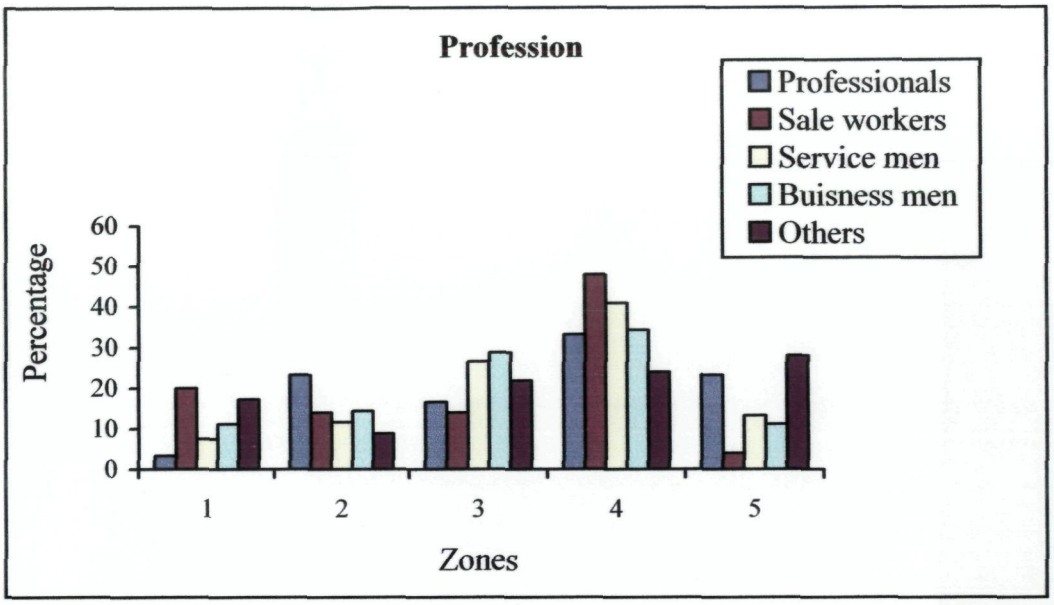


Fig. 20

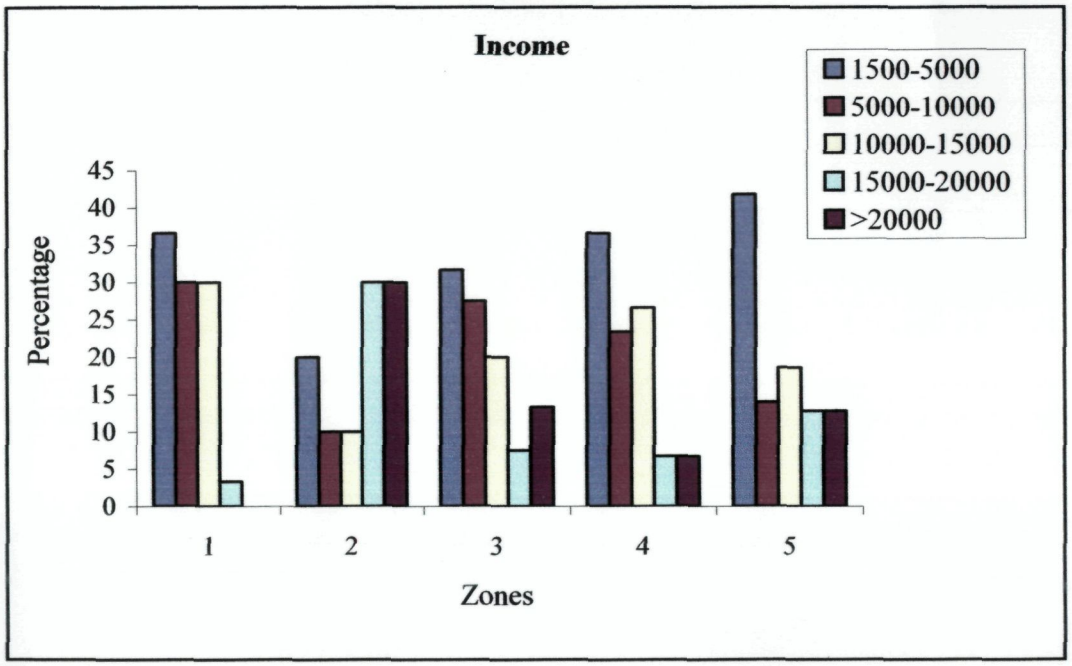


Fig. 21

Five income categories were considered for this study. In some of the households respondents were reluctant to respond their correct monthly income. Therefore, their income was estimated on the bases of the assets they were in possession.

Table 24 shows that the low income group people constituted, 36.6 per cent in the first zone, 20 per cent in second zone, 31.7 per cent in the third zone, 36.6 per cent in forth zone and 41.8 per cent in the fifth zone. With in this category come mainly the rickshaw pullers, casual labourers and factory workers. Highest percentage of these people is found in the fifth zone, especially who live in fringe areas as they earn only Rs.100 to 200 a day.

With in the medium group of people (service men, sell men and small factory owners) constitute the first zone 30 per cent, 10 per cent in the second zone, 20 per cent in third zone, 26.6 per cent in fourth zone and in fifth zone 18.6 per cent households. They are confined mainly to fourth and fifth zones because most of them are university employs and work in different government offices.

Very high income group includes businessmen, professors, doctors and many of NRIs. Highest percentage of this class is found in the second zone (30 per cent), 13.3 per cent in third zone and 12.8 per cent in fifth zone.

Table 25

Sampled Households According to the Ownership of Appliances in the Aligarh City (2007)

(in percentage)

Distribution of Appliances											
Zone	T.V	Ref	C.D player	Iron	Cell phone	W.M	Gen	A.C	Comp	LPG	None
Zone1	93.3	50	16.6	63.3	73.3	13.3	6			100	
Zone2	100	68	48	76	80	50	26	32	44	92	
Zone3	93.3	62.5	34.1	65.8	71.8	20	5	10	12.5	95	3.3
Zone4	98.8	61.2	37.7	70	72.2	23.1	10	10	23.3	97.7	
Zone5	83.6	55	29	59.5	60	27.7	8.6	14	23.6	76	14

Note: T.V- Television, Ref- Refrigerator, W.M- Washing Machine, Gen- Generator, A.C- Air Conditioner, Comp- Computer, L.P.G- Liquefied Petroleum Gas.

Source: Based on the field survey (2007)

There exists a considerable variation in the ownership of appliances which depends mainly on the income and purchasing power of household. As illustrated in Table 25, more than 95 per cent of the households in different zones own T.V and L.P.G, the most needed home appliances even owned by the low income group people. Other electrical appliances like refrigerator, iron, washing machine were mostly seen as the belongings of affluent households. The less common appliances like A.C, generator and computer (considered to be the luxury items in India) are mostly found in the high income group of households.

Cell phone too is also the most needed and popular item which is possessed by the people belonging to all income groups. But some low income

group households found in third and fifth zones do not own any appliance, even the L.P.G.

Table 26

Sampled Households According to the Ownership of Vehicles in the Aligarh city (2007)

(in percentage)

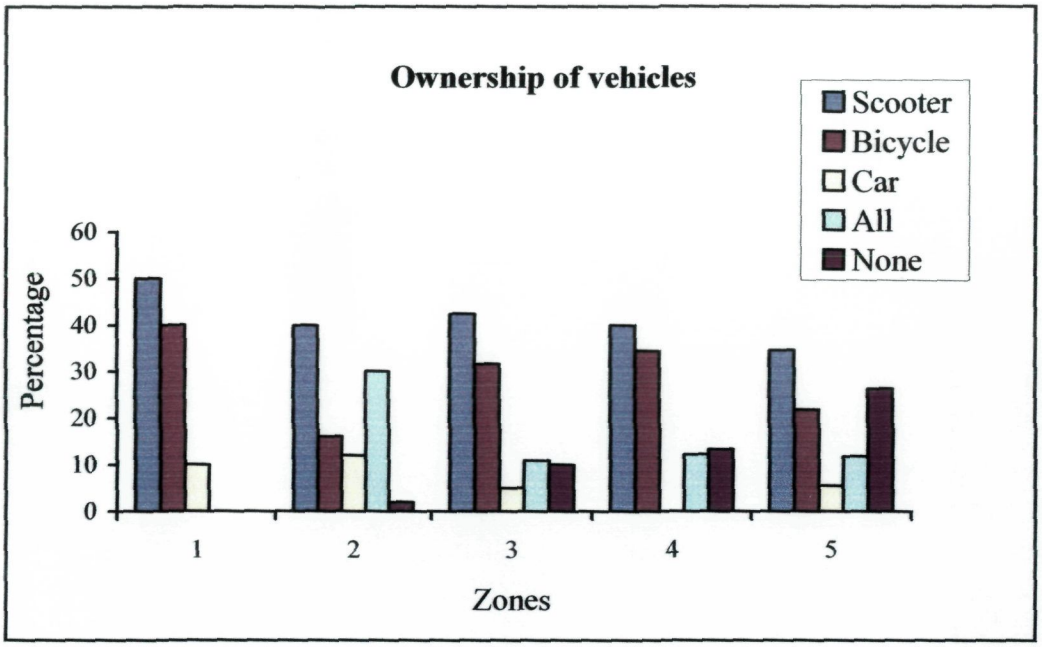
Zone	Distribution of Vehicles				
	Bicycle	Scooter	Car	Scooters and Cars	None
Zone1	40	50	10		
Zone2	16	40	12	30	2
Zone3	31.6	42.5	5	10.9	10
Zone4	34.4	40		12.2	13.3
Zone5	21.8	34.5	5.5	11.8	26.3

Source: Based on the field survey (2007)

Vehicle ownership is summarized in Table 26. It is seen from table that there is a wide variation in the ownership of vehicles, which too depends on the household income. In the first zone, 40 per cent, in second 16 per cent, 31.6 per cent in third. 34.4 per cent in fourth and 21.8 per cent in the fifth zone low and medium income groups people own bicycles. More than half of the medium and high income groups people posses scooters residing in different zones.

The scooter and car owner constitute only 30 per cent in the second zone, 10.9 per cent in third, 12.2 per cent in fourth and 11.8 per cent in fifth zone which belong to very high income groups. Many low income households of different zones move specifically in the fifth zone do not own vehicle.

Ownership of Vehicles of Sampled Household in Aligarh City, 2007



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Chapter V

ROLE OF THE MUNICIPALITY IN URBAN DEVELOPMENT IN ALIGARH CITY

The municipal bodies are the self-governing organization; their functions play an important role for the betterment in the lives of the citizens. Though the functions of the municipal board are divided in to two categories obligatory and discretionary, but due to limited resources and absence of technical skills, municipalities find it difficult to extend the obligatory functions to the residents of municipal limits.

The 74th Constitutional Amendment in 1992 recognized municipalities as democratic units of self-government. The objectives include decentralization of power and ensuring popular participating in planning, management and delivery of civic services.

The 12th Schedule of the Constitution provides an illustrative list of 18 municipal functions which are as following:

i. Urban planning, including the town planning.

ii. Regulation of land use and construction of buildings.

iii. Planning for economic and social development.

iv. Roads and bridges

v. Water supply for domestic, industrial and commercial purposes.

vi. Public health, sanitation conservancy and solid waste management.

vii. Fire services.

viii. Urban forestry, protection of the environment and promotion of ecological aspects.

ix. Safeguarding the interest of weaker sections of the society.

x. Slums improvement and up gradation.

xi. Urban poverty alleviation.

xii. Provision of urban amenities and facilities such as parks, gardens and playgrounds.

xiii. Promotion of educational, cultural and aesthetic aspects.

xiv. Burial grounds; cremation grounds and electric crematorium.

xv. Cattle ponds and prevention of cruelty to animals.

xvi. Vital statistics including registration of birth and deaths.

xvii. Public amenities, including street lighting, parking grounds, bus stops, and public conveniences.

xviii. Regulation of slaughterhouses and tanneries.

a) The Purpose of Formation of Municipality in Cities

The root of the present day urban development in India lies back to the Mughal period and particularly the British period. Delhi, Chennai, Kolkata and Mumbai are the metropolitan cities, even today, while the Mughals were running their empire from Delhi, the East India Company had developed a strong hold on the other cities. Many cities developed as centers of communication, military cantonments, the centers of revenue administration etc.

The growth of several cities and towns on a different pattern in the British period created the need of municipal bodies for the effective functioning of the cities. The existing pattern is a part of previous system of the ancient traditions, which was on some extent based on the military feudalism, this system was not suitable for the colonial framework.

The origin of the modern municipal system owes much to Sir Josia Child who obtained a charter from James II to set up a Corporation of Madras in 1642. The British regime did away with the indigenous foundation and the ancient local taxation system. New patterns were created.

Municipalities were established in a number of cities from 1881 onwards, invested a large amount of power for civic aid like collection of taxes, maintenance of roads, removal of garbage and night soil, provision of public health and education.

The history of the formation of the municipal corporation in India is divided in to four phases.

First Phase (1833-1882)

The first local government was introduced with a power to levy house tax and a responsibility to provide civic amenities. In 1870 Lord Mayo's resolution brought a change in the administration. A scheme of decenterlization of administration was introduced, facilities like education, health and roads came under the provisional government for these purposes.

Second Phase (1882-1919)

On 18th May 1882 Lord Ripon's resolution laid the foundation of the system as it is exist today. The principles include, provision to have at least two third members of municipalities as non-officials. System of elections was introduced for the selection of the Chairman or head of the municipality.

Several taxes such as octroi, house tax and property tax were introduced housing, lighting of roads, public health and education were included in the duties of municipality.

Third Phase (1919-1935)

This period was influenced by the recommendation of the Royal Commission on the decentralization in 1907-1908, which led to the resolution of 1915 of the Government of India. The reforms made in 1919 made a clear cut demarcation of tax collection power of the local bodies. The local taxes were realised as toll taxes on the land values, on buildings, vehicles and on animal trade.

Fourth Phase (1935-1945)

This phase started with the inauguration of provincial autonomy in 1935. Further decentralization was made in respect of local bodies. Though functions were enlarged, but the revenue collection decreased, and thus local bodies became more dependent on the grants and aids.

(b) A brief history of Aligarh Municipal Corporation

Local autonomy was the local feature of the ancient hindu polity and in that context it is reasonable to believe that viable unit of self government functioned in the villages and towns in that period, but in the absence of any record it is not possible to delineate the rise and fall of these institutions in the district from the earliest time.

During the ancient period villages were governed by the panchayats which exercised both administrative and judicial power. But during the Muslim and British rule they almost disappeared. Under the Mughal rule most of the municipal functions were in the hand of Kotwal.

In 1956, The Bengal Caukidari Act, was applied to those towns which were not big enough to be governed by municipalities and if they had a

population enough to make it necessary to provide rudimentary civic services. This Act was also applied to Aligarh and Hathras and in 1860 it applied to other blocks too. Year of 1857 marks the beginning of local self government in the district. In the earliest days of British rule a committee known as the local agency was established at Koil and Hathras for management of local affairs and local improvement. In 1856 house tax was introduced for the purpose of watch and ward. In 1865 towns of Koil (Aligarh), Hathras, Atrauli, Sikandra Rao, and Harduaganj were constituted as municipalities under the Municipal Act of 1850,and four years later house tax was replaced by octroi. In 1882 Harduaganj was removed from the list of municipalities.

The earliest municipal committees were nominated bodies and it was after passing the N.W.P Municipal Improvement Act 1868 that, the elective principal was introduced for the first time. The constitution of these institution under-gone a change in 1883 Act, which also changed the name from the municipal committee to municipal board.

The Bengal Chaukidari Act was replaced in 1914 by the U.P Town Areas Act the principal change made by it was to relieve the town of their watch and ward duties and make the town area committee primarily responsible for the sanitation of the towns.

The U.P District Board Act 1922, made some more changes in the constitution and function of the board. With the advent of independence in 1947, universal adult franchise right introduced for the election of the members.

In 1978, there were 4 Municipal Boards, 14 Town Areas, 1 Zila Parishad, 17 Kshettra Samitis and 1496 Gaon Panchayats in the district.

The Aligarh Municipal Board came into existence in August 1865, under the Municipal Act of 1850. The first municipal committee was nominated and it was after passing the N.W.P Municipal Improvement Act, 1868 that the elective principal was introduced. In 1883 N.W.P and Oudh Municipalities Act changed the name from 'Municipal Committee' to 'Municipal Board'.

(c) Responsibilities and Functions

According to U.P. Nagar Nigam Act 1959, Nagar Nigam was given the responsibilities to provide certain public services to the citizens. As per the 74th amendment, there has been a considerable increase in the responsibilities of the local bodies.

Some of the important services/ duties undertaken by Municipalities for the citizens are as follows:

1. Sanitation and cleaning of public streets and drains.
2. Cleaning of public toilets and urinaries.
3. Repair and maintenance of drains.
4. Measures to control spreading of contagious/ infectious diseases
5. Emancipation of dead dogs.
6. To remove the heap of garbage.
7. To remove the debris
8. Sanitation and cleaning of garbage houses.
9. Other works related to garbage disposal.
10. Cattle catching (catching rowdy animals).
11. Dog catching.

12. Disposal of dead bodies and dead cows and buffaloes.
13. Maintenance of parks.
14. Securing the green trees in public places.
15. Removal of dangerous plants and dried trees.
16. Construction and repair of streets and lanes.
17. Patch repair and filling of pits.
18. Repair of foot-paths.
19. Maintenance of streets.
20. Permitting roads cutting and temporarily closing the pathways.
21. Construction of drains.
22. Repairing of light of lightening spots.
23. To install new light in lightening spots.
24. Arrangement of new streets lights.
25. Installing the electricity polls and stretching wires.
26. Lightening arrangement at different public places and public festivals.
27. Supply of clean drinking water in parks and water supply for individual and commercial purposes.
28. Maintenance, running and repair of Jalkal Department, water supply of public water points.

In view of the complex problems faced by the local bodies, they should deal with the situation by performing new dimensional functions. These functions include guiding the citizens in building their houses, strengthening the public health services, providing the environmental inputs and extending

social welfare and recreational facilities. The urban local bodies should be strengthened in view of the growing responsibilities. The state governments should guide them to overcome the difficulties encountered in the delivery of the above listed functions.

Moreover the role of the municipalities should not be confined to the provision of civic amenities. Provision of civic amenities is not an end of to the problem; it should become means to extend local welfare. It can be achieved only with the committed political will and honest executives.

(d) Extension and provision of services in the city

The Aligarh Municipality covers an area of 36.70 sq km with a population of 639303 (in 2001). It is divided into 70 wards for which 70 members were elected directly from adult franchise. Normally the term of municipal board is of five years but it may be extended by the government in exceptional circumstances.

Municipal Board (Seva Bhawan) thus plays an important role in the provision of urban services and they have a significant impact on the city development. Rapid population growth in the city has led to the growing urban services deficits both in terms of maintaining services and extending them to unserviced areas.

Urban infrastructural development has been funded through budgetary support from Central\State Governments and Local Bodies through five year plans and annual plans.

The availability of amenities and facilities to the people in a spatial framework reflects the quality of life in that area. Higher the accessibility to the

services, the better would be the environment. Municipal Board (Sewa Bhawan) and Aligarh Development Authority A.D.A are the two very important departments which play a leading role in providing all the facilities.

Facilities provided by the municipality and A.D.A

(i) Housing Facilities

Table 27

Development of housing facilities in Aligarh city, 1971-2001

Year	Number of houses	Decennial growth (percentage)	
		Year	Percentage
1971	32787	1971-81	41.48
1981	46390	1981-91	16.64
1991	54113	1991-2001	145.44
2001	132818	1971-2001	305.09

Source- A.D.A (2001), Aligarh

Nearly 77.89 per cent of the total land of Aligarh city is used for residential purposes. Eastern part of the city mainly dominated by old houses, that part is very congested and consist one or two rooms. Western part has new and big houses with lawns and open space. This area is not much congested, and the localities of Kishanpur, Dodhpur, Begpur, Hamdard Nagar and Avantika colony inhabited by urban elites.

Table 27 shows a very fast growth rate is observed between the period 1991-2001 which is almost 145.8 per cent. Many new colonies have been built by the A.D.A in the last 15 years in different wards like Zohra Bagh and Shajamal, but still there exist an acute problem of housing in the city. Many slums have developed in fringe areas.

(ii) Health Facilities

Table 28

Health Care Facilities in Aligarh city, 1971-2001

Year	No. of doctors	No. of hospitals	No of private clinics	No of maternity homes	Total	Decinnial growth rate	
						Year	Percentage
1971	49	3	9				
1981	85	5	18	3	61	1971-81	81.96
1991	109	7	35	5	111	1981-91	40.54
2001	255	12	75	12	156	1991-01	126.92
					354	1971-01	480.33

Source- Office of the Chief Medical Officer, Aligarh (2001)

Health facilities in the city are of medium standard. There are three important hospitals namely Jawahar Lal Nehru Medical College (JNMC), Malkhan Singh and Gandhi Eye Hospital. Beside these there are number of private clinics and nursing homes located in different wards.

Table 28 shows that medical facilities in the city have grown by leaps and bound since 1971. In 1971 there were only 3 hospitals, 9 private clinics and no maternity home in the city. But by 2001 the number of hospitals increased to 12, private clinics 75, and 12 maternity homes in the city. The decadal growth rate of these facilities from 1971 to 2001 is about 480.33 per cent.

(iii) Educational facilities

Table 29

Educational facilities in Aligarh city, 1971-2001

Year	No of primary schools	No of junior sec schools	No of secondary schools	No of higher secondary	No of colleges	Total	Decennial growth	
							Year	Percen-tage
1971	67	4	9	3	2	85	71-81	88.23
1981	125	8	15	9	3	160	81-91	23.75
1991	151	14	18	11	4	198	91-01	66.66
2001	239	25	32	30	4	330	71-01	288.23

Source- Office of the Inspector of Schools (BSA), Aligarh, 2001

Aligarh is the seat of learning, and there are many schools and colleges in the city. It has only one university named Aligarh Muslim University (AMU) which was established 1920, it is a centrally administrated institution. It is situated in the northern part and covers an area of 4.3sq km. About 8.55 per cent of the total city land is occupied by the educational institutions.

Table 29 reveals that the growth of educational facilities in the Aligarh city from 1971. With the increase in the city's population more demand for educational was felt. In 1971 there were 67 primary schools, 4 junior schools, 9 secondary, 3 higher secondary and 2 colleges in the city. But the number of institution increased to 239 primary, 25 junior, 32 secondary, 30 higher secondary schools in the city and 4 colleges by 2001 in the city. Highest decadal growth rate of 66.66 per cent is observed during 1991- 2001.

iv) Banking and Recreational facilities

Table 30

Banking and recreational facilities in Aligarh city, 2001

Year	Banking and recreational facilities	Number
2001	Non-Nationalized Bank	3
2001	Gramin Bank	6
2001	Sarkari Bank	3
2001	Gramin Agricultural Bank	1
2001	Post Office	30
2001	P.C.O's	130
2001	Cinema Halls	16
2001	Parks	20

Source- Office of the Nagar Nigam, Aligarh (2001).

Table 30 shows that there are 3 non-nationalized, 6 gramin, 3 sarkari, and only 1 gramin agricultural banks, 30 post offices, 16 cinema halls, and 20 parks in the city.

No doubt Municipal Board of the city is doing developmental work in the city. It is trying to provide all the infrastructural facilities in the city. Tables previously referred clearly show a tremendous growth of in amenities like housing, educational, medical and recreational.

Still there remain many problems and deficiencies in building of infrastructure of the city. One of the main problem is that, all the facilities are only confined to the core areas, fringe areas are devoid of roads, sanitation, proper housing, medical and educational facilities. According to the concerned

officials, this kind of deficiencies due to the paucity of staff in the board and some financial constraints that is why, they are unable to deliver these basic amenities in the fringe areas of the city.

CONCLUSION

The present study related to the urban development and social well-fare development in Aligarh City attempt in finding out the spatial distribution of infrastructural facilities and social well-fare development in the city. It also takes into account the infrastructural facilities and attempts to correlated with distance from the centre of the city.

The development of Aligarh City dates back to pre-Christian era. Upper Kot (Balai Qila) represents the core area and the centre of the city.

This region acquired its basic form in the medieval period which is continuing even today. Generally concentric but sometime sectoral growth has taken place in this area.

Development of Railway Line in the later half of the 19^{th} century has divided the city into a western and eastern half and made the segregation of city more pronounced.

Aligarh city is expanding at much faster rate in recent years. Many villages like Hamdard Nagar, Maulana Azad Nagar, Dori Nagar have came under the Municipal limit, but these areas lack in infrastructural facilities.

The interaction between various social and economic factors, precipitated through history have created a new functional pattern of the city.

The basic civic amenities like housing, roads, sanitation, sewage, solid waste management, parks, health and educational facilities very much lacks in the Aligarh city especially in the peripheral areas.

By examining infrastructural facilities in different zones of Aligarh city, it was found that the first and second zones lying near the centre have good roads, and sanitation system, but they lack other civic amenities. Whereas the remaining three zones present a very bad picture regarding the infrastructural facilities.

Percentage of old houses is higher than new houses in all the zones because in old city houses are very much congested and are of old type. Due to the non-availability of open spaces the construction of houses has been rather unplanned. They have little ventilations and poor sewage. In the old city areas though the people are financially sound but due to illiteracy they are unaware with regard to many things. But housing pattern of Civil Lines area is entirely different; houses are new and big with open spaces and lawns.

Aligarh city lacks in public places like parks and play grounds. Vacant lands are seen only in some wards of the fifth zone as these areas were recently included in the Municipal limits, otherwise no open spaces are seen in the central part of the city.

Condition of the roads in the city show improvement since 5-6 years, especially in the central zones mostly metalled and cemented roads exist in the entire city, about 91 per cent, but the highest percentage of unmetalled roads and kharanja is seen in the fifth zone.

Aligarh city has almost cemented open drains but there are some areas in the third, fourth and fifth zones where drains do not exist and waste water generally spills comes over the roads and even the inside houses which may cause too many diseases.

Central part of the city lies over on elevated ground with proper drainage lines, therefore, no water logging is seen in this area. Whereas in the fourth and fifth zones drainage is not proper as a result the drains always cause water logged conditions and filled with garbage throughout the year.

Open drains serve as the principal means of solid waste disposal. About 65 per cent of households in different zones use open drains, especially in the older part of the city. The reason for such condition in old city is that houses are old and small, and therefore they do not have enough space for the construction of septic tanks. But 34.7 per cent households have septic tanks as they live in new part of the city.

Garbage is seen spread over the roads and streets in every zone. But it is prominently seen in old part than new part because in old part, especially in the centre lies a big market of food stuff, other shops and small household industries which are the main sources of garbage generation and the newer part is purely used residential purposes.

Health facilities in Aligarh city are largely good. It has two Civil Hospitals (Malkhan Singh and Women Civil Hospital), Medical College, Eye Hospital and many other private hospitals and nursing homes. Besides these the peripheral zones are devoid of medical facilities. The residents of wards like Kishor Nagar, Beema Nagar and Fire Brigade do not have even a single clinic the vicinity of their locality they have to travel upto a certain distance to avail the facilities.

Aligarh city also has very good educational facilities. It has Aligarh Muslim University (A.M.U.) 239 primary schools, 25 junior schools, 32 secondary schools, 30 senior secondary schools and 4 colleges.

Evidently the highest percentage of educational facilities is found in fourth and fifth zones. In other zones the educational facilities restricted only to primary schools.

The spatial pattern of social well-being reveals the following findings:

Highest percentage of joint family system was observed in the first zone followed by the third and fourth zones to spread over the older part of the city, where still joint family system persists. The second and fifth zones have a very high percentage of nucleated families.

About 78.78 per cent of the families live in their own houses in different zones, whereas 21.2 per cent live in rented houses.

First, second and third zones show high percentage of literates as compared to the fourth and fifth zones, because in the peripheral areas most of the people belong to very low income group and don't have enough money to send their children to school. Children instead of going school work in the factories for earning and support their family. But these zones also have some high income group families and a small proportion of the low income groups.

Among all the zones of the city, second zone shows highest percentage of graduates and post-graduates, which is followed by fifth and fourth zones.

Among the residents of different zones business is the main occupation. But the highest percentage of businessmen are found in the second zone as 48 per cent professionals live in this zone. Highest percentage of servicemen was observed in the fourth and fifth zones. Fifth zone also consist of a large proportion of population engaged in many other activities like sweepers, rickshaw pullers, laborers etc.

Residents of second zone ranks first with regard to monthly income as they have their own business. In fourth and fifth zones too, a good percentage of high income group is found, the residents are mostly professionals. A highest percentage of very low income group is also found in fifth zone.

There exists a considerable variation in the ownership of domestic appliances used by the residents. The purchase and use of these depend on the income of households. Some household owners in the fifth zone were devoid of appliances even they use chulhas for cooking of food. Though some households with high income of this zone have almost all the amenities with the use of L.P.G to air conditioners.

Similar situation exists in possession of vehicles. About 30 per cent of households in second zone own scooter and car, of which the percentage is highest among other zones.

From the above discussion it can be concluded that urban development and social well-fare development are interdependent and related to each other. Urban development can bring substantial improvements in social well being of the society, if infrastructural facilities are equally made available in all the zones, especially in peripheral areas.

Government through the concerned departments should made efforts to provide proper housing facilities, good roads, efficient public transport, proper sanitation and sewage systems, health facilities, parks and open spaces and above all good educational facilities for upgrading social well-fare in the Aligarh city.

It is the prime duty of the Municipal Corporation of Aligarh is to arrange for the infrastructural facilities equally to poor and weaker areas through proper planning.

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Appendix - 1

Density of Population (ward wise-2001)

Ward No.	NAME OF WARD	NAME OF MOHALLA	POPULATION OF WARD
1	Indra Gandhi Khair Road	Nagla mehtab, Delhi Gate Khair road, Indra Nagar, Nagla Masani.	10986
2	Sarai Garhi	Sarai Garhi, Sarai Vrandavan, Sarai Pitambar, Sarai Bhooki,Sasni Gate, Sarai Bhatt, Gopal Puri.	9699
3	Nagla Kalar	Nagla Kalar, Nagla Maulvi, Nagla Kunjalpur, Lakshmpur, Banna Devi, Nagla Masani.	10741
4	Sarai Lavaria	Delhi Gate, Sarai Radha, Goolar road, Mitra Nagar, Sarai Lavaria, Udai Singh Jain road, Sadak Delhi Darwaza.	8608
5	Sarai Kaba	Sarai Kaba, Ataiyan, Usman Para-2, Turakman Gate, Turakman Darwaza	10529
6	Pala Sahibabad	Pala Sahibabad, Nai Abadi Pala road	10349
7	Dori Nagar	Ambedkar Colony, Dori Nagar with in Nagar nigam Limit, Rathi Nagar, Hodal Nagar, Kunwar Nagar.	10478
8	Nauner Gate	Nauner Gate, Sarai Kale Khan, Babri Mandi, Ladia, Sarai Bhatt, Vishambhar Nagar, Sarai Rajaram, Sarai Bholanath.	9757
9	Naurangabad	Charra Adda, Chawni, Naurangabad	8553
10	Delhi Gate	Delhi Gate, Kailash Gali, Sarai miyan	10107
11	Beema Nagar	Beema Nagar, Banna Devi, Nagla Kalar, Chuharpur, Nagla Chuharpur, Surksha Bihar, Shikshak Nagar, Jawahar Nagar, A.D.A Colony.	10357
12	Sarai Deen Dayal	Parao Dubey, Peer Mittha, Sarai Deen Dayal, Shishiya Para, Achal Road, Madar Gate, Sarai Intizam Ali, Sarai Peerbaksh, Dwarkapuri.	8467
13	Nagal Masani	Niranjanpuri Gaushala, Sarai Delhi Darwaza, Nagla Masani, Nagla Mehtab, Goolar Road, Shakti Nagar.	10566
14	Sarai Bala	Jaiganj, Sarai Pathan, Afghanan, Rang Mahal, Sarai Bholanath, Sarai Bhatt, Ladiya, Sarai Bala, Parao Jaiganj, Sarai Qazi, Samna Para, Qazi Para, Barai.	9516
15	Krishnapur	Krishnapuri, Hari Nagar, Bihari Nagar, Gopalpuri, Sahibabad	10842

16	Durga Puri	Sarai Mishra, Bara Gauhar Ali, Parao Jaiganj, Barai, Sarai Man Singh, Sarai Khirini, Durgapuri, Sarai Gyanat Rai, Sarai Meva Ram, Sarai Jawan, Sarai Bhushiya, Isha Nagar.	9557
17	Chawni	Chawni, Shastri Nagar, Tikaram Colony, Kundan Nagar, Ambedkar Colony.	10697
18	Gambhirpura	Gambhirpura, Hanumanpuri, Mahendra Nagar.	8568
19	Nai Basti	Kishorpuri, Malockchand Dharam Shala, Nai Basti, Kothti Lankram, Refuzi Qurt, Avas Vikas Colony, Kathpula.	9797
20	Exhibition Ground	Banna Devi, Tubewell Colony, Chuharpur, Jawahar Nagar, I.T.I Road.	10772
21	Slaughter House	Nai Abadi, Nagla Ashiq Ali, Slaughter House. Turkman Gate, Sarai Miyan.	10472
22	Sanichari Penth	Turkman Gate, Sanichari Penth, Sarai Qutub.	9249
23	Kalideh	Nagla Pala, Bhagwan Nagar, Pala Sahibabad, Hanumanpuri, Gambhirpura	9078
24	Kishanpur	Ganga Jawahar Colony, Kishanpur, A.D.A. Colony, Sarswati Bihar, Rambagh Colony, Stadium, Avantika Phase-1, Avantika Phase-2, Niranjanpuri, Gyan Sarovar.	10882
25	Sarai Hakim	Takiya, Bazar Sarai Hakim, Ansariyan, RAm Ganj, Baradwari, Sarai Hakim, Laxmipuri, Kuriyan, Sarai Babu, Gulariyai, Rasal Ganj, Women's Civil Hospital, Danpur Compound.	8273
26	Sarai Nabab	Mamu-Bhanja, Mahavir Ganj, Mal Godam, Yousuf Ganj, Pidru Ganj, Sarai Nawab, Phapala, Pathar Bazar, Barahdwari, Kaliyan Ganj, Gali Gulluji, Sarai Baij Nath, Sarai Beragi, Subhash Road.	8213
27	Kanwari Ganj	Kanwari Ganj Road, Mahavir Ganj, Barahdwari, Kilat Ganj, Aligarh Gate, Ahata Nidhan Singh, Talab Sabir Khan, Gali Nakklan, Palki Khana, Modi Khana, Gali Dhusran, Chipeti, Katra, Gali Palamal, Ghuria Bagh, Delhi Gate.	9012
28	Bhamola	Bhamola, Alam Bagh, University Qtrs, Nagla Bhunda.	9953

29	Sudamapuri	Sudamapuri, Vishnupuri, Gandhi Eye Hospital, Prag Sarovar, Chandiniya, Mohan Nagar, Niranjanpuri, Man Sarovar, Gyan Sarovar, Shanti Sarovar, Arya Nagar, Avantika Phase-2, A.D.A. Colony, Kishanpur.	10409
30	Fire Brigade	Fire Brigade, Banna Devi, Goolar Road, World Bank Colony, Pratibha Colony, Nagla Masani.	9748
31	Begpur	Begpur, Ramghat Road, Vikram Colony, Vidhya Nagar, Islambad Bhatta, Marris Road, Durgabadi, Japan House.	8421
32	Gandhi Nagar	Gandhi Nagar, Dwarikapuri, Adda Hathras, Achal Road, Ghihara Nagar, Mahendra Nagar, Bapu Nagar, Premier Nagar, Bank Colony, Ram Ratan Colony.	8697
33	Kishor Nagar	Jail Road, Kishor Nagar, Industrial Estate, Barola Jafrabad, I.T.I Road, Chuharpur.	9200
34	Sarai Pakki	Sarai Pakki, Sarai Sultani, Sarai Rai, Madar Gate, Sarai Khirni, Barai, Brahmanpuri.	8183
35	Dodhpur	Dodhpur, Darul Uns, Jaffar Nagar, Pan Wali Kothi, Allah Wali Kothi, Azad Nagar, Garib Manzil, Nigam Qtrs, Girl's College Road, Lal Diggi Road, Marris Road.	8968
36	Avas Vikas Colony	Sasni Gate, Avas Vikas Colony, Vivek Bihar, Lodhi Puram, Saket Bihar, Panch Nagari.	8494
37	Jamalpur	Jamalpur, Nagla Jamalpur, AnupShahar Road.	8214
38	Kala Mahal	Syed Bara, Ghans Ki Mandi, Rang Rejan, Kala Mahal, Turkman Gate, Sanichiri Penth, Sarai Qutb, Afghanan, Babri Mandi.	8976
39	Jiwangarh	Jiwangarh	9775
40	Badar Bagh	Badar Bagh, Loco Colony, Katecheri Road, Aabkari, Police Qtrs, Police Line, Collectrate, Zila Panchayat, Anona House, Pahasoo House, Railway Qtrs, Nuarangilal Inter College.	9800
41	Shivpuri	Shivpuri, Sarai Rehman.	9720

42	Vikas Nagar (A.D.A. Colony)	Gopal Puri, Pala Sahibabad, Vikas Nagar, A.D.A. Colony, Avas Vikas Colony, Shantipuram, R.K.Puram, Gopalpuri.	8140
43	Rawan Tila (Jawalapuri)	Saroj Nagar, Jawalapuri, Sanjay Gandhi Colony, Govind Nagar Colony.	10919
44	Begum Bagh	Begam Bagh, Durgesh Colony, Chandaniya, Nagla Jawahar, Nagla Mandir, Nagla Tikona.	10938
45	Zohra Bagh	Zohra Bagh, Kela Nagar, Dodhpur, ahmad Nagar, Friends Colony, Nagla Mallah, Jiwangarh.	8614
46	Janakpuri	Janakpuri Colony, Janakpur, Madpura, Pandariba, Mathura Nagar, Shyam Nagar, Samad Road, Ramghat Road, Gulzar Nagar, Marris Road, Mahavir Park, Railway Colony Near Station.	8734
47	Ashok Nagar	Raghubirpuri, Ganga Nagar Colony, Ashok Nagar, Masoodabad, Mitra Nagar, Goolar Road, Zamirabad, Avas Vikas Colony, Bannadevi.	8627
48	Nagla Tikona	Nagla Tikona, Begam Bagh, Durgesh Colony, Nagla Jawahar, Jawlapuri.	10811
49	Lekh Raj Nagar	Lekh Raj Nagar, Nagla Jahar, Press Colony, Samad Road, Marris Road, Hariom Nagar, Girls College Road, Rahat Kada, Dak Khana Road, Lal Diggi Road, Malkhan Nagar, C.M.O.Compound, Judge Compound	8274
50	Rasal Ganj	Rasal Ganj, Habibabad.	8406
51	Ghanshyampuri	Jawalapuri, Charra Adda, Surendra Nagar, Baikunth Nagar, Nagla Taar, Ghansyampuri, Vishnupuri.	10413
52	Firduas Nagar	Firduas Nagar, Shahanshahbad, Nagla Bhunda,	8162
53	Maulana Azad Nagar	Mualana Azad Nagar, Shashah bad	8173
54	A.D.A. Colony Area	Shah Jamal, Roravar, Delhi Gate, A.D.A Colony, Sarai Miyan	10845
55	Usman Para-III	Sarai Miyan, Delhi Gate, Qureshiyan, Usman Para-III	9455
56	Brhamanpuri	Purani Kotwali, Sarai Bibi, Shaha Para, Rafat Ganj, Madar Gate, Tamoli Para, Krishan Tola, Brahmanpuri, Khai Dora, Kanoon Goyan, Nehru Gang, Mali Para,	8368
57	Iglas Road Pumping Station	Sasni Gate, Bhojpura	10938

58	Medical College	Dodhpur, Jamia Urdu, A.D.M. Compound, Varunalay Guest House, University Hostel, University Qtrs, Medica Colony, Sir Syed Nagar.	10136
59	Nagla Jamalpur	Nagla Jamalpur, Jamalpur.	8955
60	University Area	Anup Shahar Road, Radio Colony, Kabir Colony, Kishori Bhawan, Purani Chungi, Qila Road, University Compound, Shamshad Market.	9820
61	Kela Nagar	Krishi Farm, Kela Nagar, Ekta Nagar, Vikas Bhawan, Pt Deen Dayal Hospital, Jiwangarh.	9991
62	Shah Jamal Area	Shah Jamal, Delhi Gate Khair Road, Delhi Gate, Nagla Masani.	9822
63	Manik Chowk	Mamu Bhanja, Sarai Beram Beg, Manik Chowk, Chah Garmaya, Gali Kaliya, Sarai Barah Saini, Madar Gate, Sarai Ratan Lal, Bara Bazar, Subhsh Road.	10006
64	Khai Dora	Purani Katcheri, Ghosiyan, Khai Dora, Bani Israilan, Tehsil Road, Sabji Mandi, Chandan Shaheed.	10649
65	Bhujpura	Bhujpura, Sarai Qutub, Turkman Gate.	10878
66	Sir Syed Nagar	Nagla Mallah, Dodhpur, Sir Syed Nagar, Shaukat Manzil.	9473
67	Tan Tan Para	Kanwari Ganj, Gali Hajjam, Atish Bazan, Tehsil Road, Tan Tan Para, Sunhat, Chowk Bundu Khan, Shekhan	8612
68	Hamdard Nagar	Hamdard Nagar, Mother Teressa Abadi	9114
69	Badam Nagar	Badam Nagar, Hamdard Nagar	10724
70	Baniya Para	Baniya Para, Chah Bastana, Balai Qila, Usman Para-I, Chirag Chiyan, Teela, Chandan Shaheed, Shekhan.	8407

Source: Office of the Seva Bhawan, Aligarh

Appendix-II

Questionnaire on urban development and social welfare development in Aligarh city

General observation

Ward no

1. Name of the mohalla
2. Type of the mohalla
   High standard/Medium standard/Low standard
3. Type of houses
   New/Old/Unplanned/Mixed/Jhuggi
4. Open space/Green space
   Parks/ Vacant land
5. Ward is
   Muslim dominated/Hindu dominated/Mixed
6. General environment
   Clean/over crowded/spacious
7. Garbage in ward
   Spread every where/ not seen
   If spread
   Along road side/ open space

Infrastructural facilities in the ward

8. Roads
   a. metalled
   b. Unmetalled
9. Type of roads
   a. Ce mented
   b. Mix sphelt
   c. Kharanja
   d. Inter locking
10. Access to public buses

If yes

Condition of these buses

a. Bad
b. Good
c. Over crowded

11. System of sewer/drainage
    a. Open surface
    b. Pit system
    c. Water logging
    d. Garbage
12. Method of disposal of night soil
    a. Baskets
    b. Septic tanks
13. Health facilities
    a. Government Hospitals
    b. Dispensaries/Private clinics
    c. Nursing homes
    d. Medical institutes

14. Are these services easily accessible to the people?
    Yes/ No
15. Educational facilities: no of schools and colleges in the ward
    Level of schools
    a. Primary
    b. Middle
    c. Secondary
    d. Senior Secondary
16. Type of colleges
    a. Arts
    b. Science
    c. Commerce
    d. Medical
    e. Engineering
    f. Law
17. Recreational facilities
    a. Stadium
    b. Cinema hall
    c. Public libraries
18. Market facilities
    a. Periodical market
    b. Daily market
    c .Shopping complex

Respondent profile

1. Number of family members in a house

No	Age	Sex	Education

2. Religion
   Muslims/Hindus/Christians/Others
3. Profession
   a. Professionals
   b. Sale workers
   c. Service men
   d. Business men
   e. Others
4. Income
   a. 3000-5000
   b.5000-10000
   c. 10000-15000
   d.15000-20000
   e. < 20000
5. Type of family
   Nuclear/ Joint
6. Status of house
   Own/ Rent
7. Building material
   a. Ferro concrete
   b. Brick house
   c. Mud, wood, thallium
8. Material status
   T.V, Refrigerator, C.D player, Iron, Cell phone, Washing machine, Generator, A.C, Computer/ Gas connection/ Water connection
9. Mode of water supply
   Tap/ hand pump/Running water/Jet pump
10. Mode of transport
    Scooter/Cycle/Car
11. In which type of school they prefer to send their children? Why

12. Which type of doctor they prefer when they fall ill? Why

13. Are they satisfied with infrastructural facilities in their ward?

14. What type of improvement they want in their ward?